



Sustainable Growth at Citi

Progress and Impacts of Citi's \$100 Billion Environmental Finance Goal



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Citi's Key Milestones in Environmental Finance

MAY 2007

Citi announces 10-year \$50B Climate Initiative

to address climate change—among the first goals of its kind in the industry.

SEPTEMBER 2011

Citi finances Desert Sunlight Solar Project

as sole underwriter; this 550 MW project in California was the largest solar energy project at the time.

JUNE 2013

Citi underwrites largest renewable energy bond

to date for Berkshire Hathaway's 579 MW Solar Star, the world's largest solar project at the time of completion.

JUNE 2014

Citi underwrites first asset-backed green bond

for the auto industry, with a \$1.75 billion offering for Toyota Motor Credit Corporation.

DECEMBER 2010

Citi finances Shepherds Flat Wind Project

in Oregon, the world's largest wind farm to date at 845 MW and the first offering of its kind supported by a partial U.S. Department of Energy loan guarantee.

JULY 2012

Citi finances Panama Metro System

for the Ministry of Economy & Finance and the Metro de Panama, to raise over US\$862 million of financing for the system's first line.

JULY 2013

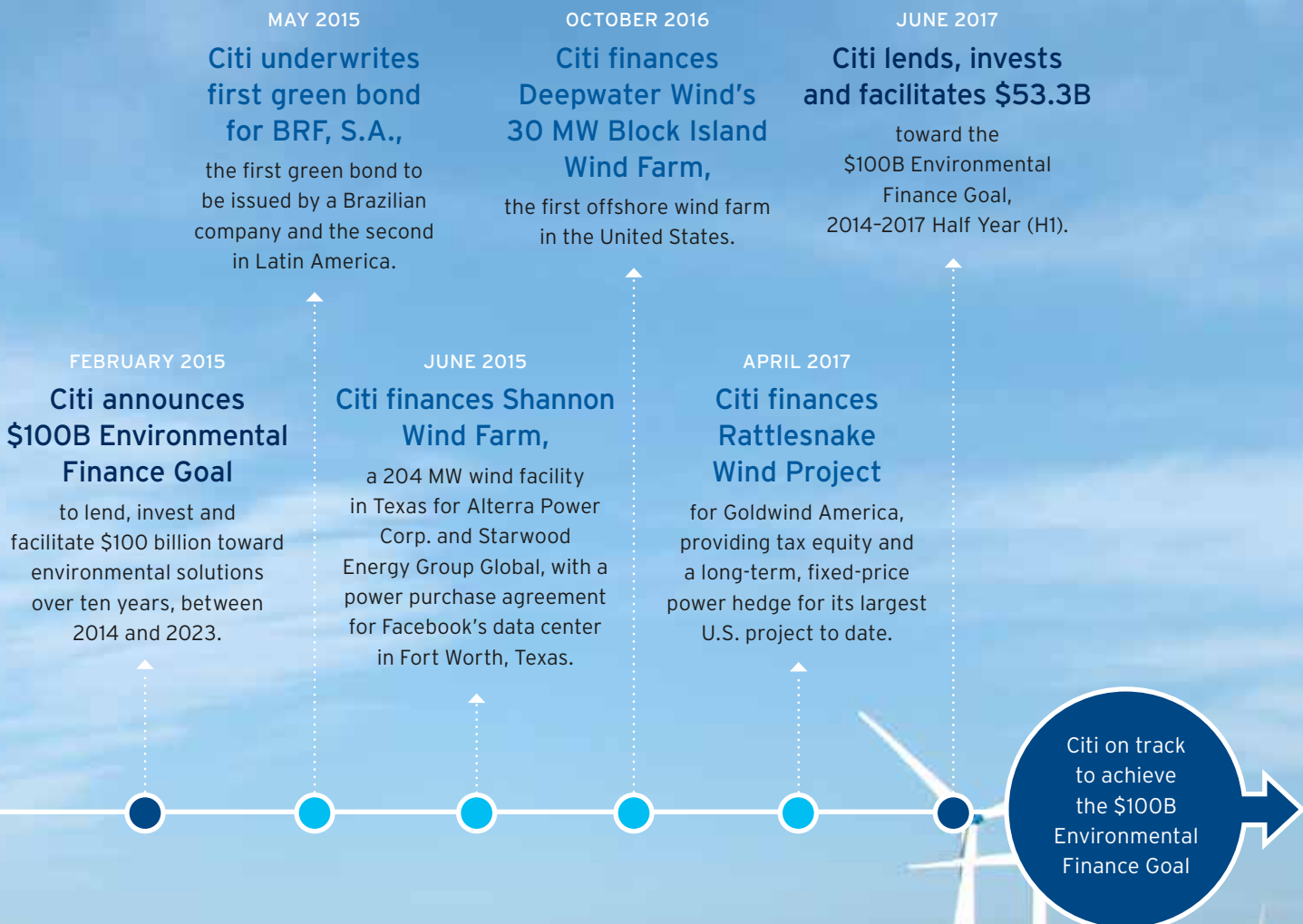
Citi achieves \$50B Climate Initiative

in seven years—three years ahead of schedule.

For more information on Citi's sustainability initiatives please visit www.citigroup.com/citi/sustainability or contact sustainability@citi.com.

Published November 2017.

This document contains financial data and impact metrics based on activity from 2014-2017 H1.



Letter from our CEO

We get it. And our clients get it. The world is moving at a rapid pace toward cleaner, more sustainable sources of energy, and businesses around the world are leading the way with new ideas, plans and projects, as well as firm commitments to stay the course in addressing global climate change.

But these ideas, plans and projects that will protect our environment for generations to come require investment and financing to become reality – and Citi proudly delivers both. We've been helping our clients contribute to climate and environmental solutions for more than 10 years. In just three-and-a-half years, we have financed and facilitated \$53.3 billion in environmental finance transactions, meeting more than half of the \$100 Billion Environmental Finance Goal we set in 2014 to lend, invest and facilitate \$100 billion over a 10-year period. That builds on our previous \$50 Billion Climate Initiative, which we achieved over the prior seven years.

This report marks our progress toward the \$100 billion goal to date. It shows where we've pushed the bar higher and also highlights areas we recognize as opportunities to innovate and enable progress into the future for the shared success of our business and our clients.

These are all good and profitable transactions for us and our clients. But our reasons for staying committed to this work extend well beyond the numbers. Our global economy is on the cusp of a transformative period. According to the International Energy Agency, renewable energy accounted for two-thirds of new power added to the world's grids in 2016.¹ For the first time in history, growth in solar energy outpaced that of every other form of power generation, leading energy experts to confidently talk about our entering into a fundamentally new era of low-carbon energy production. The world is changing for the better, and we stand with our clients as they imagine, create and build a broader transition to a low-carbon future.

Still, trillions more dollars of clean energy investment, sustainable infrastructure and other environmental investments are urgently needed to effectively reverse our planet's warming trend and build a resilient, sustainable economy. At Citi, alongside others in the industry and the public sector, we'll do our part to help meet this need. And in meeting it, we will continue to serve our clients as their trusted partner in enabling growth and progress for all.



MICHAEL L. CORBAT
Chief Executive Officer, Citigroup Inc.



¹ IEA, *Renewables 2017: A new era for solar power*, 2017: <https://www.iea.org/renewables/>.

Environmental Finance at Citi

Climate change is real, and the impacts could be catastrophic if the world's average temperature continues to rise as projected. This was the conclusion reached by the Intergovernmental Panel on Climate Change (IPCC) in 2007.² It was a bold call to action across regions and industries to consider the role of business in addressing this challenge head on. Citi responded.

In 2007, Citi launched an initiative to direct \$50 billion toward climate-friendly projects in 10 years. We reached that target three years early in 2013, and in 2015, we announced the \$100 Billion Environmental Finance Goal, to lend, invest and facilitate \$100 billion in environmental finance activities.³ As a global bank, we believe that we play an essential role in financing a sustainable economy and that environmental finance activity represents a tremendous growth opportunity for our business and our clients.

The scope of this opportunity is increasingly underscored by leading voices in sustainable finance. Ceres' Clean Trillion campaign and their related research provides in-depth context on the scale of the required investment.⁴ And in Bloomberg New Energy Finance's recent *New Energy Outlook* report, they describe the critical importance of mobilizing investors to scale up clean energy investment, noting that \$12.7 trillion is needed to keep the planet's temperature on a 2 degree Celsius trajectory. Of this, \$7.4 trillion will need to be invested in renewable energy generation worldwide through 2040, and a further \$5.3 trillion will need to be invested in 3,900 gigawatts of zero-carbon capacity.⁵

The \$100 Billion Environmental Finance Goal is the flagship initiative of Citi's Sustainable Progress Strategy,⁶ a global strategy that focuses on environmental finance, environmental and social risk management and our own operations and supply chain. The \$100 billion goal directly aligns with Citi's mission to provide financial services that enable growth and economic progress. All of the business that counts toward the \$100 Billion Environmental Finance Goal is driven by market demand and generates positive risk-adjusted financial returns for Citi, for our clients and for society as a whole. Having an established goal provides us with a cohesive way to measure and communicate the impact of activity that contributes to an important global challenge, while also sending a clear signal about our intentions to our clients and partners, and to the market.

² IPCC, *Climate Change 2007: The Physical Science Basis*, 2007: <http://www.ipcc.ch/report/ar4/wg1/>.

³ Although we announced the 10-year \$100 Billion Environmental Finance Goal in early 2015, we began counting activity toward it starting with calendar-year 2014 deals.

⁴ For more information about the Clean Trillion campaign, see Ceres' website: <https://www.ceres.org/resources/reports/mapping-gap-road-paris>.

⁵ Bloomberg New Energy Finance, *New Energy Outlook*, 2017: <https://about.bnef.com/new-energy-outlook/>.

⁶ For more on Citi's Sustainable Progress Strategy, please see our website: <http://www.citigroup.com/citi/environment/strategy.htm>.

Our \$100 Billion Environmental Finance Goal supports environmental solutions that will reduce climate change impacts and benefit society.

To reach our goal, we apply our environmental criteria:



Renewable Energy



Water Quality and Conservation



Sustainable Transportation



Green Building



Energy Efficiency



Clean Technology

Working with partners and clients we finance a range of transactions, such as the examples listed below:

ALTERNATIVE ENERGY BANKING AND FINANCE

- Renewable Energy Project Financing
- Solar Company IPO

GREEN BONDS

- Green Bond for Corporate Client

PUBLIC FINANCE

- Mass Transit Bond Financing
- LEED Certified Affordable Housing Financing

COMMODITIES

- Power Purchase Agreement (PPA)
- Monetization of Renewable Energy Credits

CONSUMER/COMMERCIAL BANKING

- Energy Star Home Mortgages
- Solar Company Corporate Loan

Our environmental finance activity can be seen around the world:



This work results in measurable impacts:

3.7M Mt CO₂e

GHG emissions avoided

88,885

Jobs supported
(direct, indirect and induced)

41.3M

Population in U.S. cities
and counties supported by
water-quality projects

4,631

Families served by green
affordable housing

1,883 MW

New renewable energy capacity

Financial data and impact metrics based on activity from 2014-2017 H1.

Tracking Progress Toward Our Goal

Citi's \$100 Billion Environmental Finance Goal encompasses a variety of lending, investing and facilitation activities.

We have committed to reporting on our progress toward the \$100 Billion Environmental Finance Goal with rigor and transparency. To do so, we have developed a set of criteria and an accounting methodology that we feel best captures the full spectrum of work by Citi and our clients to help build a sustainable, low-carbon future.

Criteria

Any transactions that are counted toward the goal must fall under one of the following criteria:

-  **Renewable Energy**
-  **Water Quality and Conservation**
-  **Sustainable Transportation**
-  **Green Building**
-  **Energy Efficiency**
-  **Clean Technology**

Together, these criteria cover the diverse portfolio of financial transactions that we define as “environmental finance.”

If a project meets more than one criterion, we categorize it by the primary criterion for reporting purposes. We report our progress by criteria as well as by region and by business, to provide multiple perspectives on the activity that contributes to the goal.

Citi's \$100 Billion Environmental Finance Goal criteria spans well beyond renewable energy, which was the primary focus of our initial 2007 \$50 Billion Climate Initiative. With the \$100 billion goal, we expanded the scope to include water quality and conservation activities. Also, we have reported our progress toward the \$100 billion goal separately from the previous goal.

Finance Activities

Citi draws on the diverse expertise of our global teams to provide our clients with innovative products and services that best capture emerging opportunities to address climate challenges. Our reporting on this activity is organized according to business category, including Alternative Energy Banking and Finance, Green Bonds, Public Finance, Commodities, and Consumer Banking and Commercial Banking.

“ The diversity of deals we're able to facilitate on behalf of our clients around the world, coupled with our increased commitment to environmental finance, position us well for long-term sustainable growth. ”

ED SKYLER

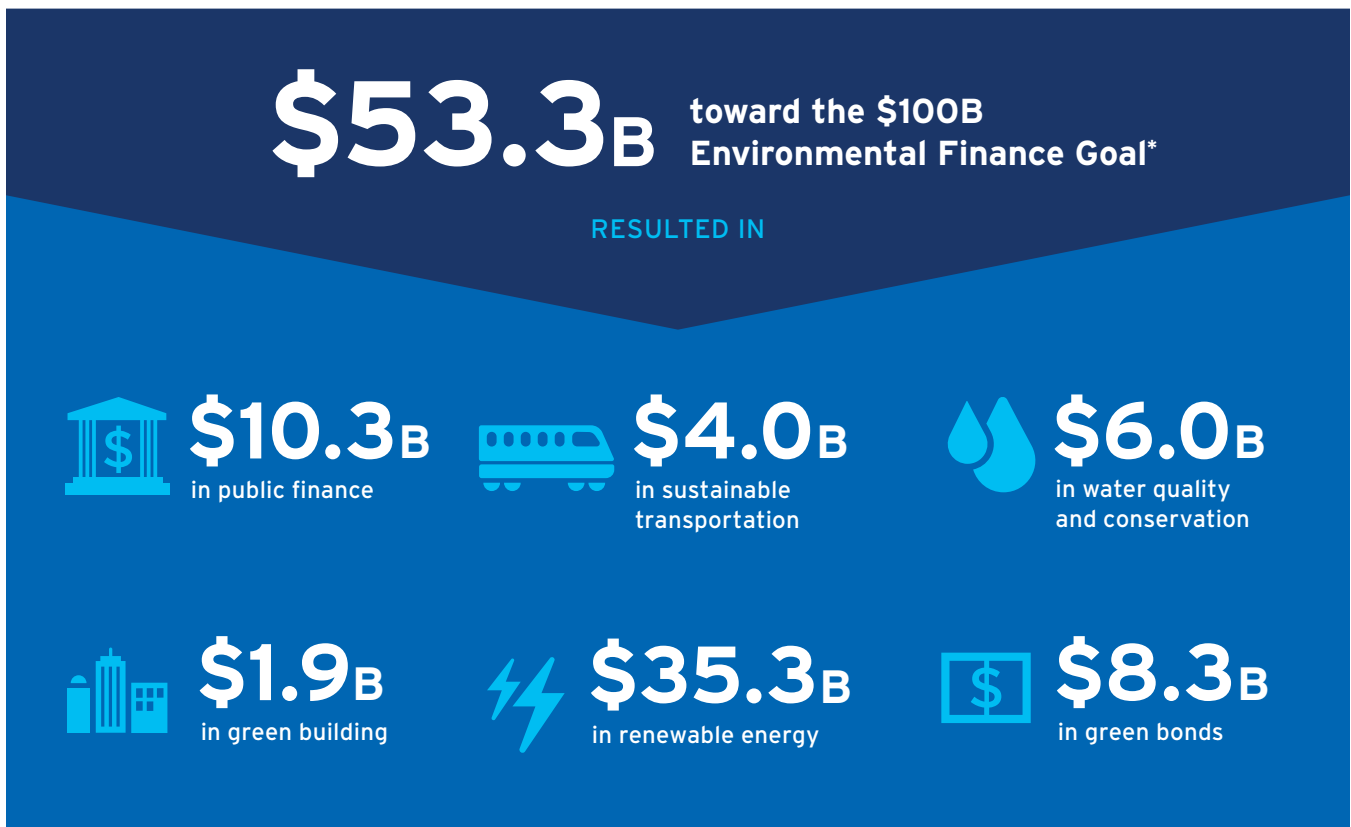
Executive Vice President of Global Public Affairs, Citi

“ The growing opportunities in environmental finance are directly aligned with our core value proposition of enabling growth and progress and are a cornerstone of our approach to corporate citizenship. This activity is not philanthropy or a ‘nice to do.’ It’s good business. ”

BRANDEE MCHALE

Director of Corporate Citizenship, Citi & President of the Citi Foundation

\$100 BILLION ENVIRONMENTAL FINANCE GOAL: FINANCIAL HIGHLIGHTS, 2014-2017 H1



* Transactions fall within multiple categories of reporting. For complete data, see page 11.

Accounting Methodology

In 2017, we shifted to a league table credit methodology to account for activity toward the \$100 Billion Environmental Finance Goal.

This new approach is based on third-party verifiable league table data, which accounts for Citi's direct contribution based on our role in each transaction. A league table is a competitive ranking of banks, companies, industries, geographies or other groups of entities ordered according to a metric (e.g., deal volume, number of deals).

Previously, for both the \$50 Billion Climate Initiative and the \$100 Billion Environmental Finance Goal, we counted each deal's total fair market value toward the goal to measure the total capital mobilized by Citi financing. In 2016, when it became clear that we would likely reach the \$100 billion goal in early 2017, ahead of the target year of 2023, we reviewed our accounting approach and evaluated alternative methodologies. We ultimately adopted an accounting methodology that uses Citi's league table credit to determine the amount of each deal that is counted toward our goal. For deals involving products that don't use league tables, the amount of Citi's direct lending is counted.

The league table methodology changes the way we measure progress toward the goal by focusing more on Citi's role within any given transaction, rather than the total deal value. This approach helps to provide greater transparency as to Citi's role in contributing to environmental solutions in service of our clients.

For those transactions to which we can apply league table accounting measures, we use Dealogic, Thomson Reuters and Bloomberg New Energy Finance league tables. For deals that involve loans or other financial products from Citi where there are no established league tables, we count the amount that reflects Citi's engagement in the deal.

Using our league table accounting methodology, we've recalculated all the deals that have counted toward the \$100 billion goal, from 2014 through the first half of 2017, and determined that we have contributed \$53.3 billion to sustainable growth. Overall this methodology more closely aligns with the way we measure other aspects of our business while also allowing us to account for our environmental finance activity.

For more information on our financial accounting methodology, please see page 26.

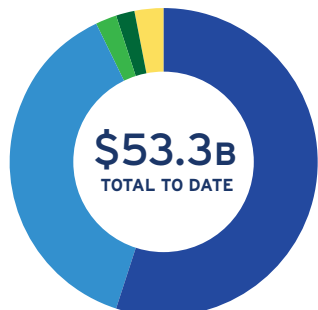
“ Accounting for environmental finance is still evolving. We need to make sure we're counting deals using solid metrics that stand up to scrutiny. We have worked hard to bring our approach more in line with other mainstream banking practices rather than treating this as something separate. ”

DAVID SOLOMON

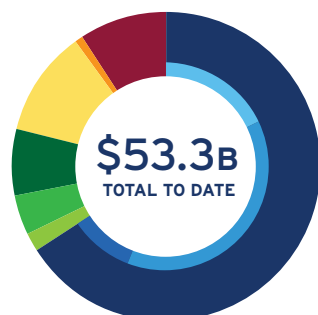
Director of Client Analytics, Citi

Financial Data

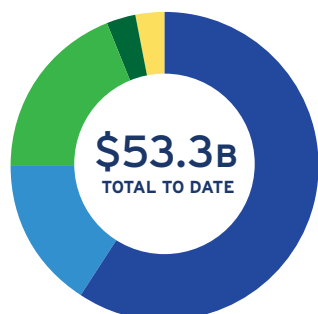
in billions of dollars, 2014-2017 H1



	2014	2015	2016	2017 H1	TOTAL	TOTAL %
REGION						
North America	\$4.2	\$11.8	\$9.6	\$4.0	\$29.6	56%
Europe, Middle East and Africa	\$2.4	\$4.4	\$8.2	\$5.0	\$20.0	38%
Asia Pacific	\$0.2	\$0.1	\$0.5	\$0.3	\$1.0	2%
Latin America	\$0.2	\$0.3	\$0.1	\$0.4	\$0.9	2%
Multiple Regions	\$0.5	\$1.1	\$0.0	\$0.0	\$1.7	3%
TOTAL	\$7.5	\$17.7	\$18.5	\$9.6	\$53.3	100%



ENVIRONMENTAL CRITERIA						
Renewable Energy	\$4.9	\$12.5	\$12.5	\$5.5	\$35.3	66%
Solar	\$0.8	\$2.5	\$3.3	\$3.0	\$9.5	18%
Wind	\$3.0	\$8.1	\$8.5	\$0.8	\$20.4	38%
Multiple Technologies	\$1.1	\$1.9	\$0.7	\$1.7	\$5.4	10%
Energy Efficiency	\$0.1	\$0.3	\$0.3	\$0.1	\$0.9	2%
Green Building	\$0.4	\$0.6	\$0.6	\$0.2	\$1.9	4%
Sustainable Transportation	\$0.5	\$1.7	\$1.6	\$0.2	\$4.0	7%
Water Quality and Conservation	\$0.4	\$1.1	\$2.8	\$1.6	\$6.0	11%
Clean Technology	\$0.1	\$0.1	\$0.1	\$0.0	\$0.3	1%
Multiple Criteria	\$1.1	\$1.4	\$0.5	\$1.9	\$4.9	9%
TOTAL	\$7.5	\$17.7	\$18.5	\$9.6	\$53.3	100%



BUSINESS						
Alternative Energy Banking and Finance	\$4.2	\$11.7	\$12.0	\$3.8	\$31.7	60%
Green Bonds*	\$1.8	\$1.8	\$1.3	\$3.4	\$8.3	16%
Public Finance	\$0.7	\$3.3	\$4.3	\$2.1	\$10.3	19%
Commodities	\$0.2	\$0.5	\$0.5	\$0.1	\$1.4	3%
Consumer Banking and Commercial Banking	\$0.6	\$0.5	\$0.4	\$0.2	\$1.6	3%
TOTAL	\$7.5	\$17.7	\$18.5	\$9.6	\$53.3	100%

* Includes green portion of sustainability bonds when information is available.

Figures may not total to 100% due to rounding.

Impacts of Our Goal

While dollar amounts provide a clear sense of progress and scale, we recognize the importance of nonfinancial metrics that highlight the positive impacts of environmental business activities.

Citi set out to develop an approach to measure the estimated environmental and social impacts associated with our \$100 Billion Environmental Finance Goal at the time the goal was announced. During the development phase, we researched existing practices for measuring impacts and analyzed the availability and limits of transaction data to determine the most feasible and accurate approaches. We also engaged with stakeholders to learn from experts in the field and get feedback on our approach. There were difficulties in developing metrics that could apply across different products and services, and while this work is still nascent within the finance sector, we welcomed the challenge to better understand the impacts associated with our goal.

We have identified a range of impacts—greenhouse gas (GHG) emissions avoided, jobs supported and community benefits—that we are able to apply to a subset of the transactions counted toward the goal. We calculate these metrics where actual data or a reasonable proxy method can be obtained. We have also adjusted our impact calculations to reflect our revised accounting methodology (see pages 26 and 27 for more details). For example, where we previously counted the total estimated GHG emissions avoided in connection with a renewable energy project to reflect the overall benefit, we are now only calculating the impact based on Citi's portion of financing.

Environmental Impacts

To calculate environmental impacts, we developed models to estimate the emissions avoided by the different types of transactions that contribute to the goal—specifically, renewable energy financing and energy efficiency financing within banking and capital markets origination, consumer and commercial banking, and public finance. In general, we tend to take a conservative approach and do not report impacts of transactions where we do not have transparency into the underlying transaction details. Similarly, we do not

include avoided emissions associated with transactions that enable refinancing or changing ownership of existing renewable assets. For renewable energy deals, we count impact from deals that are new wind or solar projects only, to account for additional renewable energy capacity. For public finance and consumer banking, we calculate energy savings from new, LEED-certified buildings. We believe that calculating GHG emissions from these activities shows the impact they can have at scale.

Social Impacts

We focus on employment as a metric because of the potential positive impacts that jobs have on people's livelihoods and on economic growth. Based on an approach used by economists and public policy experts, we developed a model to estimate our contribution to supporting job creation. Our modeling tool estimates the number of jobs supported from Citi's financing of U.S.-based renewable energy projects and public finance activity. These calculations are based on specific investment and expenditure profiles tied to data aggregated from a number of sources, including the National Renewable Energy Laboratory, the American Public Transportation Association and the National Association of Home Builders. These profiles are then combined with employment multipliers from the U.S. Bureau of Labor Statistics to estimate the sectoral job impacts from transactions financed by Citi.

We acknowledge that there are challenges to accessing data for environmental and social impacts, and our approach incorporates assumptions to best calculate estimated impacts. However, we believe it is important to make our best possible effort—and to continue to consider our stakeholders' feedback as we go forward—to ensure we make a positive impact on society and contribute to solving global environmental challenges.

For more information on our impact accounting methodology, please see page 27.

\$100B ENVIRONMENTAL FINANCE GOAL: ESTIMATED IMPACT HIGHLIGHTS, 2014-2017 H1

\$3.9B renewable energy financing activity*

RESULTED IN



19,340
estimated jobs supported



1,883 MW
energy generated



3.1M Mt[†]
GHG emissions avoided

EQUIVALENT TO

667,125
cars taken off the road for one year

OR

7.2M
barrels of oil not consumed

\$10.3B in public finance activity**

RESULTED IN



69,545
estimated jobs supported



10.3M
trips on mass transit



41.3M
people served by water-quality projects



4,631
families served by green affordable housing



6,372 Mt[†]
GHG emissions avoided

EQUIVALENT TO

1,364
cars taken off the road for one year

OR

14,753
barrels of oil not consumed

* Renewable energy financing activity includes wind and solar project-related financing activity, and is part of Alternative Energy Banking and Finance, which totals \$31.7B from 2014-2017 H1.

** Public finance activity includes municipal bond activity related to water quality and conservation and sustainable transportation, and financing for affordable green housing.

† Greenhouse gas emissions equivalencies calculated using the U.S. Environmental Protection Agency (EPA) Greenhouse Gas Equivalencies Calculator: <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>.

Deal Highlights

We work closely with our clients to deliver innovative products and solutions that help make their projects a reality. Here is a selective look at projects in each criteria category that are counted toward the \$100 Billion Environmental Finance Goal.

“ Solar and wind generation have grown exponentially. Frankly, it is now a bit of a misnomer to call them ‘alternative energy.’ They have become mainstream. ”

SANDIP SEN

Managing Director, Global Head of Alternative Energy and Power, Citi

“ The types of renewable energy projects that we can finance have grown significantly in recent years. Citi seeks innovative solutions to bring together institutional investors with clients who need capital to develop their projects. Citi plays a crucial role in helping our clients finance their clean energy projects. ”

MARSHAL SALANT

Managing Director, Global Head of Alternative Energy Finance, Citi



Renewable Energy

BLOCK ISLAND WIND FARM

In October 2016, Citi provided financing for the construction and operation of Deepwater Wind's Block Island Wind Farm, the first U.S. offshore wind farm. Citi participated in the construction loan and provided tax equity financing along with General Electric (GE). Block Island is a 30 MW wind farm that utilizes five GE turbine towers that are 600 feet (180 meters) high and is located 3 miles off the coast of Block Island, Rhode Island. This is a landmark transaction in U.S. renewable power history and representative of the continuing growth of renewable energy development. The offshore installation took two years, with more than 300 local workers helping to develop, build and commission the project, according to Deepwater Wind. The wind farm has executed a 20-year power purchase agreement with the Narragansett Electric Company and started delivering power in December 2016.

GEOGRAPHIC REGION	TYPE OF TRANSACTION
North America	Construction Financing, Tax Equity Financing
BUSINESS	IMPACT DATA TRACKED
Alternative Energy Banking and Finance	GHG emissions avoided, jobs supported

TESLA SOLAR FINANCING

In 2016 and 2017, Citi closed two lease pass-through (LPT) tax equity funds with Tesla/SolarCity for a total of \$150 million of committed tax equity. The combined LPT funds will finance a diversified pool of residential rooftop solar photovoltaic systems across the U.S. Citi was the sole tax equity investor and implemented structural solutions that allowed Citi to finance the Tesla/SolarCity customer base across geographic locations and equipment manufacturers.

GEOGRAPHIC REGION	TYPE OF TRANSACTION
North America	Pooled Tax Equity Financing
BUSINESS	IMPACT DATA TRACKED
Alternative Energy Banking and Finance	GHG emissions avoided, jobs supported

RATTLESNAKE WIND FARM

In April 2017, Citi provided tax equity financing with BHE Renewables (a division of Berkshire Hathaway Energy) to the Goldwind Americas 160 MW Rattlesnake Wind Project in McCulloch County, Texas. Citi also provided the long-term fixed-price power hedge. Goldwind is a subsidiary of China-based Xinjiang Goldwind Science & Technology Co. Ltd., the largest manufacturer of permanent magnet direct-drive wind turbines in the world. This project will be Goldwind's largest U.S. project to date, utilizing 64 of its turbines. The Rattlesnake Wind Project, valued at approximately \$250 million, will bring significant economic benefit to the community of McCulloch County, and the company estimates it will support approximately 250 well-paying construction and service-related jobs.

GEOGRAPHIC REGION	TYPE OF TRANSACTION
North America	Tax Equity Financing
BUSINESS	IMPACT DATA TRACKED
Alternative Energy Banking and Finance	GHG emissions avoided, jobs supported

LANDSVIRKJUN GEOTHERMAL POWER PLANT

In December 2015, Citi arranged \$68.2 million in financing for Landsvirkjun's (LV) Theistareykir Power Project, a 90 MW geothermal project located in northeastern Iceland, with potential for expansion. The project is a geothermal power plant for two 45 MW steam turbines to be completed in two phases; the first 45 MW turbine will be operational in the fall of 2017 and the second is on course to go online in 2018. LV is a leader in renewable energy, with a 100 percent renewable energy generation portfolio. The development and construction of the project has adhered to strict environmental guidelines and uses best environmental practices.

GEOGRAPHIC REGION	TYPE OF TRANSACTION
Europe, Middle East and Africa	Construction Financing
BUSINESS	IMPACT DATA TRACKED
Public Finance	GHG emissions avoided



Water Quality and Conservation

GREAT LAKES WATER AUTHORITY

From 2014 to 2016, Citi led a series of transactions totaling more than \$3 billion for the Detroit Water and Sewage Department (DWSD) and its regional wholesale successor, the Great Lakes Water Authority (GLWA). In 2014, Citi helped rescue the water and sewage credits from Detroit’s pending bankruptcy by achieving over \$100 million in present value savings for Detroit through a consensual refinancing of \$1.7 billion of the DWSD’s bonds in exchange for Detroit’s agreement not to “cram down” the credits in bankruptcy. Citi then worked throughout 2015 and 2016 on the creation of the GLWA, a new regional utility that provides clean water and wastewater disposal services to 3.8 million people in southeastern Michigan. In October 2016, Citi led the GLWA’s inaugural bond sale, a \$1.3 billion offering that saved the GLWA’s ratepayers over \$300 million and raised the GLWA’s senior ratings to the A category. The new authority has created efficiencies for better water management, enabling Detroit to repair its crumbling water and sewer infrastructure at lower cost and helping maintain water quality for the region. The GLWA’s accomplishments in 2016 include beginning operation of the Water Residential Assistance Program, a sustainable, ratepayer assistance program that provides qualifying households with help in paying water bills and with water conservation.

GEOGRAPHIC REGION

North America

TYPE OF TRANSACTION

Municipal Water and Sewage Revenue Bonds

BUSINESS

Public Finance

IMPACT DATA TRACKED

Jobs supported, people served

CITY OF SPOKANE GREEN BOND

In 2014, Citi underwrote the largest bond issuance in the city of Spokane’s history – a green bond specifically issued to help clean up the Spokane River. Funding will be used to address the city’s sewer overflow issue by decoupling household wastewater from stormwater. The city has put this money to good use as funds were applied to construct an additional level of treatment at the city’s Riverside Park Water Reclamation Facility. This work added membrane filtration that will vastly improve the quality of effluent released from the facility. The city also built underground concrete storage tanks to help manage overflows from combined sanitary and stormwater sewers in a number of areas around the city and developed and constructed stormwater management facilities in legacy industrial areas to keep pollution out of the Spokane River.

GEOGRAPHIC REGION

North America

TYPE OF TRANSACTION

Municipal Green Bond

BUSINESS

Public Finance

IMPACT DATA TRACKED

Jobs supported, people served

“ Cities and local governments are created by their citizens to improve quality of life, so by design they’re trying to improve the sustainability and livability of those areas. Even though the dominant narrative has been about infrastructure falling apart, there is actually a lot of infrastructure investment getting done. ”

PATRICK BRETT

Managing Director, Head of Municipal Debt Capital Markets, Citi



Sustainable Transportation

SOUND TRANSIT GREEN BOND

In 2016, Citi helped bring to market a \$400 million green bond for Sound Transit, a regional public transit agency in Washington state responsible for developing and operating a regional, high-capacity transit system in the Seattle metropolitan area. According to Sound Transit's January 2017 reporting on the allocation of the green bond's reimbursement, the bond helped to support the construction and operations of Seattle's First Hill Streetcar system and the extension of the light rail system in three areas totaling 9 miles. Passengers taking Sound Transit instead of driving avoid more than 445,000 tons of GHG emissions annually, equivalent to saving more than 50 million gallons of gasoline.

GEOGRAPHIC REGION

North America

BUSINESS

Public Finance

TYPE OF TRANSACTION

Municipal Green Bond

IMPACT DATA TRACKED

GHG emissions avoided, mass transit ridership

HYDERABAD METRO RAIL PROJECT

Citi helped the developer of the Hyderabad Metro Rail Project, a 66-kilometer (km) metro rail network in India, raise approximately \$40 million in long-term, unsecured debt for the project in 2015. When complete it will connect major office, retail and residential areas with existing transit systems to make the city more commuter-friendly and reduce congestion, carbon emissions, fuel consumption, pollution and commuter travel times. Once fully operational, the system will serve an estimated 1.5 million passengers daily.

GEOGRAPHIC REGION

Asia Pacific

BUSINESS

Public Finance

TYPE OF TRANSACTION

Term Financing

IMPACT DATA TRACKED

GHG emissions avoided, mass transit ridership

PANAMA CITY METRO

In March 2017, Citi structured a buyer's credit financing solution with the Export Credit Agency of Spain to enable the Republic of Panama to finance its purchase of additional train cars for the first line of the Panama Metro System. In 2012-2013, Citi acted as Global Coordinator and Mandated Lead Arranger for the Ministry of Economy & Finance and the Metro de Panama in raising US\$862 million of financing for Line 1 of the Panama Metro System. These transactions contributed to a total of US\$1.02 billion of financing for the metro line. Line 1, inaugurated in April 2014, was Panama's first integrated metro system. It crosses Panama City from north to south, is about 16 km long, includes 14 stations and currently transports between 240,000 and 280,000 passengers per day. With the new cars, the metro trainsets will be expanded from three cars to five while adding six trainsets, bringing the number of metros circulating on the line to 26 and helping to increase access to mass transit within the country.

GEOGRAPHIC REGION

Latin America

BUSINESS

Public Finance

TYPE OF TRANSACTION

Construction Financing, Term Financing

IMPACT DATA TRACKED

GHG emissions avoided, mass transit ridership



Green Building

MLK PLAZA

In April 2017, Citi closed on financing for MLK Plaza, a new construction, 167-unit affordable residential building being developed by Radson Development in the Mott Haven area of the South Bronx. Apartments in the 12-story building will serve households of a wide range of incomes, including very low-income, low-income and moderate-income families. Thirty-three of the units will be reserved for formerly homeless individuals and families under the New York City Department of Housing Preservation and Development's OurSpace Initiative. The total development cost is approximately \$64 million. Citi provided a \$27.9 million construction-period-only standby letter of credit, to credit-enhance \$27.7 million of fixed-rate New York City Housing Development Corporation tax exempt bonds.

GEOGRAPHIC REGION	TYPE OF TRANSACTION
North America	Affordable Housing Financing
BUSINESS	IMPACT DATA TRACKED
Public Finance	GHG emissions avoided, jobs supported

OLIVER STATION

In November 2016, Citi provided a \$25 million construction loan and a \$10.85 million permanent loan to help finance the new construction of Oliver Station, a 145-unit affordable multifamily rental development in Portland, Oregon. The project, which will include housing for people with a mix of incomes, and a retail component, is part of an urban renewal plan adopted by the Portland Development Commission in 1998. According to the Commission's website, the plan focuses on job generation, small business support and infrastructure improvement in order to promote vibrancy and community growth.

GEOGRAPHIC REGION	TYPE OF TRANSACTION
North America	Affordable Housing Financing
BUSINESS	IMPACT DATA TRACKED
Public Finance	GHG emissions avoided, jobs supported



Energy Efficiency

CITI DATA CENTER FINANCING

Achieving energy and carbon dioxide (CO₂) reductions at existing data centers can be more challenging than designing new, efficient facilities. For Citi's U.K. data center, we addressed this challenge by selecting combined heat and power (CHP), a highly efficient technology for generating electricity and heat on site from a single fuel source, natural gas. The heat would normally be lost, but by coupling the CHP plant with cooling equipment, the heat is exchanged to help cool the data center. Citi played multiple roles in the project, with Citi's Asset Finance Group providing loan financing to a third-party investment company to effectively fund the project through normal operating expenses rather than capital expenditure. Citi Realty Services, the data center user, was therefore not required to provide the upfront investment costs. In 2016, we avoided 6,790.5 metric tons of CO₂ emissions at the data center, an even greater energy and cost savings than we had initially forecast.

GEOGRAPHIC REGION	TYPE OF TRANSACTION
Europe, Middle East and Africa	Energy Services Agreement (ESA)
BUSINESS	IMPACT DATA TRACKED
Alternative Energy Banking and Finance	GHG emissions avoided

WAREHOUSE FOR ENERGY EFFICIENCY LOANS (WHEEL)

In June 2015, Citi and Renew Financial closed the first-ever asset-backed security (ABS) transaction comprising unsecured consumer energy efficiency loans. The landmark transaction created a new asset class in the form of ABS backed by pools of residential loans for energy efficiency and water saving improvements. The deal represents the first securitization from WHEEL, an innovative public-private partnership to create a national financing platform to bring low-cost, large-scale capital to government and utility-sponsored residential energy efficiency loan programs.

GEOGRAPHIC REGION	TYPE OF TRANSACTION
North America	Securitization
BUSINESS	IMPACT DATA TRACKED
Alternative Energy Banking and Finance	GHG emissions avoided



Clean Technology

BARBADOS SMART WATER METERS

In June 2015, Citi closed a \$67.9 million, 12-year term loan for the government of Barbados for a smart water project. The financing has helped the Barbados Water Authority (BWA) to implement automatic water meter reading systems throughout the island, enabling the BWA to develop and install an integrated management information system and provide related maintenance services. Approximately 100,000 smart water meters will be installed, with over 80,000 already installed as of the beginning of 2017. The meters are expected to improve the efficiency of water use and help address the country's water scarcity and drought issues.

GEOGRAPHIC REGION	TYPE OF TRANSACTION
Latin America	Term Financing
BUSINESS	IMPACT DATA TRACKED
Public Finance	People served

rPLANET EARTH

With financing from Citi and other investors, rPlanet Earth will build its first polyethylene terephthalate (PET) recycling facility in Vernon, California. The new rPlanet Earth facility, expected to open in 2018, will be the country's first vertically integrated PET recycling plant and will begin recycling 55 million pounds of PET each year, some of which will be bottle-to-bottle recycling. Citi's financing for the project was structured through the New Markets Tax Credit Program, a federal initiative designed to spur private investment in support of low-income communities. Citi funded over \$18 million, in conjunction with New Markets Community Capital and MBS Urban Initiatives, while private investors provided the remainder of the capital. Once operational, rPlanet will create 100 living wage jobs in the first phase of construction – jobs that include benefits and opportunities for advancement as the company grows.

GEOGRAPHIC REGION	TYPE OF TRANSACTION
North America	New Markets Tax Credit Financing
BUSINESS	IMPACT DATA TRACKED
Public Finance	Jobs supported

“ We need the financial sector to take a leading role in continuing to drive sustainable investment into the mainstream for global investors. Citi's \$100 Billion Environmental Finance Goal is a prime example of this leadership, and their continued efforts to raise the bar, increase transparency and develop innovative products and services for their clients illustrates their commitment to a low-carbon economy.

MINDY LUBBER
CEO and President, Ceres



Looking Ahead

BY VALERIE SMITH, *Director, Global Head of Corporate Sustainability, Citi*

As a global bank, the goals we set and what we choose to finance matter – to our clients and to the broader economy. Through that lens, the success so far of our \$100 Billion Environmental Finance Goal is grounds for hope and possibility.

Not only has the \$100 Billion Environmental Finance Goal sent an important message to our employees that Citi is focused on supporting sustainable growth, it also has sent a strong signal of our ambition to our clients, investors and communities. Our momentum toward this goal demonstrates Citi's expertise in sustainable finance as well as the rapid progress that is already happening around the world.

We are proud of the strength of our environmental finance business activity and of our ability to support our clients in a number of firsts over the years. For example, Citi helped to finance the first offshore wind farm, the first energy efficiency securitization, and the first asset-backed green bond in the automotive industry. Our work to innovate and adapt traditional financial products – project finance, bond underwriting, securitization, commodities hedging – to meet sustainable finance needs is helping to grow the market faster and make it stronger. Nonetheless, we know that to address climate change we need to both maximize the potential of our current sustainable finance products while also moving faster to innovate and create new offerings. How we account for sustainable finance and measure the impacts of our financing – from carbon productivity to job creation – will be essential to keeping our environmental finance objectives relevant in a rapidly changing context.

In other words, there is a great deal more that we need to do to push ourselves and our industry further and faster. This is a highly motivating business opportunity for Citi and our clients, yet we also recognize it is a societal imperative, as the issues we face with global warming are already affecting us.

Combating climate change, and even, optimistically, reversing global warming is the challenge of our time. We will continue to work with our clients to figure out how to support the creation and scaling of innovations such as blockchain to support distributed and community solar; new technologies that enable open-air carbon capture or use of carbon as a feedstock; and zero-emission transportation systems. And we will continue to measure the impacts on people and communities, with a focus on inclusive growth and sustainable jobs, as the unifying force of our strategy.

We are not yet at a time when all finance can be defined as sustainable finance, but we are at a time of such rapid market growth and high investor interest that this transition seems inevitable. Citi is committed to playing a role in this important development and enabling progress for our clients by financing and facilitating resilient, inclusive and climate-positive solutions.







Energy Darwinism: The Evolution of the Energy Complex

BY JASON CHANNELL, *Managing Director, Global Head of Sustainability and Responsible Investment Research, Citi*

Energy is the world's biggest industry. Last year the world invested \$1.7 trillion in energy, with the International Energy Agency (IEA) estimating we could spend \$44 trillion by 2040.⁷ Comparing that figure to global GDP of around \$80 trillion helps to put these numbers in context. Global GDP is set to triple by 2060, with two-thirds of that growth set to come from emerging markets, which display significantly higher levels of energy and carbon intensity than developed markets. Hence, the energy infrastructure we build to bring power, light, heat and warmth, not to mention water and sanitation, to the billions of people around the world who still lack access will have profound implications for our planet.

But how we spend the money that will deliver on these needs is changing dramatically, and this pace of change is only set to accelerate. In 2015 in the electricity sector, the almost \$300 billion invested globally in renewable technologies was nearly three times the size of the \$110 billion invested in all the conventional fossil fuel power generation sources combined;⁸ and while coal may have driven the industrial revolution from the late 18th century, the tide is turning. In April of this year, we saw the first day in the U.K. since the first coal-fired power station opened in 1882 that no coal whatsoever was used to generate electricity. Utilities are breaking up, and brand-new fossil fuel power plants are being written down even before they have completed construction.

So what is driving this rapid pace of change? We think it comes down to three main things: technology, a greater awareness of our environment, and inexpensive and innovative finance.

New technologies such as solar, wind and storage, combined with cheaper natural gas due to hydraulic fracturing, are rapidly changing our energy landscape. More specifically, it is the speed at which the cost of these new technologies is decreasing that is causing such disruption. In many parts of the world, solar and wind now compete, without subsidy, at price levels that conventional generation struggles to match. Hydraulic fracturing has transformed the gas industry, while other technologies such as coal have evolved little in recent decades. As we pointed out in our *Energy Darwinism*⁹ and *Energy Darwinism II*,¹⁰ the differing pace and even direction of these cost evolutions are driving energy substitution at a pace, and to an extent, that is unprecedented, creating significant financial risk and uncertainty in investing in what are potentially 30-year-plus, capital-intensive assets.

But it is not just in the world of power that technology is causing such disruption. Electric vehicle penetration is rising rapidly, with many major auto manufacturers now expecting their fleets to be at least partially, if not fully, electric by the end of this decade. Once again, technological change in the form of a rapid decline in the cost of batteries and energy storage is facilitating this change, as are

⁷ IEA, *World Energy Outlook 2017*, 2017: <https://www.iea.org/publications/wei2017/>.

⁸ Ibid.

⁹ Citi GPS: Global Perspectives & Solutions, *Energy Darwinism - The Evolution of the Energy Industry*, 2013: <https://www.citivelocity.com/citigps/ReportSeries.action?recordId=21>.

¹⁰ Citi GPS: Global Perspectives & Solutions, *Energy Darwinism II - Why a Low Carbon Future Doesn't Have to Cost the Earth*, 2015: <https://www.citivelocity.com/citigps/ReportSeries.action?recordId=41>.

legislation and shifting social priorities. These large-scale storage devices have the potential to revolutionize our energy system.

For example, electric vehicles open up the possibility of parking lots serving as urban energy storage facilities; or if used as residential storage devices, in combination with solar panels, energy management systems, smart meters and appliances, they could turn households into millions of little energy traders. Will decentralized generation mean that we simply won't build electricity grids in emerging markets, much as we have leapfrogged fixed line and gone straight to mobile in telecoms? What does all this change mean for new materials and commodities, such as lithium and cobalt for batteries, or rare earth elements for making permanent magnets in gearless wind turbines? These enormous impending changes to our energy complex pose many questions and risks, but with that change also comes opportunity.

Secondly, different social priorities such as a greater regard for the environment are driving many governments and policymakers around the world to push for a cleaner energy complex. Recognizing those wishes, asset owners are also changing their investment goals. The Principles for Responsible Investment (PRI) now has more than 1,200 asset managers as signatories,¹¹ responsible for approximately \$70 trillion of assets under management.¹²

Which brings us to the third point: innovative finance. A faster pace of change inevitably creates risk and uncertainty, and it is here at the coming together of risk and innovative finance that we find banks and financial markets. This is why we at Citi, as one of the world's largest global banks, believe we have a key role to play in facilitating this transition to a more progressive and sustainable future.

The money is there, and in a world of quantitative easing and historically low returns, investors such as pension and insurance companies are crying out for yield and longer-term income streams to match against their long-term liabilities. Many infrastructure assets such as renewables can provide these longer-term returns, potentially at lower risk than conventional assets due to fewer variables such as fuel costs. So, the money is there, as is the technology. It is the role of banks and financial markets to bring these two together and to facilitate this change with innovative financial instruments, such as green bonds.

We are faced with a generational opportunity to improve the quality of our environment, to create millions of new jobs, and to bring power, light, warmth, water, sanitation, health, mobility, communications and learning to millions around the world. Citi's \$100 Billion Environmental Finance Goal pays testament to our desire to play our part in facilitating that change.

To read more on this topic, please visit Citi GPS: Global Perspectives & Solutions at www.citivelocity.com/citigps/.

¹¹ Principles for Responsible Investment (PRI) website, <https://www.unpri.org/>.

¹² Ibid, directory/ <https://www.unpri.org/about>.

Making Green Capital Competitive



BY ED MORSE, *Managing Director, Global Head of Commodity Research, Citi*
AND ANTHONY YUEN, *Global Energy Strategist, Citi*

The confluence of cheaper energy and improved climate and environmental policy are now poised to reshape energy markets by catalyzing large-scale shifts in fuel use and investment. Well-intended policies are crucial to increase clean energy use and access to clean water, but financing is key to implementation and deployment.

The momentum of climate and environmental policies that might fundamentally alter energy use in the global economy is building, but that momentum could be challenged by cheaper oil, coal and gas that are better positioned to compete with cleaner alternatives. Renewable energy is potentially the largest beneficiary and one of the most important tools for global emissions mitigation. But the price of oil has fallen by half and the cost of natural gas has gone down even further in some locations: Oil prices fell from over \$100/barrel before mid-2014 to the \$50/barrel range these days; liquefied natural gas (LNG) prices also dropped from around the \$15 to \$20/million Btu (MMBtu) neighborhood between 2011 and 2014 to the \$5/MMBtu range in mid-2017. Climate policy does not imply the abdication of competitive economics—whether and how renewable energy can compete will still matter immensely to its growth and viability as a climate solution, particularly in a lower fossil fuel priced world.

Further cost declines in renewables will be necessary to incentivize deployment, creating a need to pursue other avenues of cost reduction to reach sustainable energy goals. On the one hand, the levelized cost of energy (LCOE), which includes the capital, financing and other system costs of utility-scale solar in the U.S. (in 2017 dollars), has fallen from \$0.28/kilowatt hour (kWh) in 2010 to about \$0.06/kWh in

2017—a target set by the U.S. Department of Energy SunShot Initiative that was not supposed to be reached until 2020.¹³ On the other hand, reducing financing costs is the next phase in improving the competitiveness of renewable energy. For capital-intensive renewable projects, financing costs can make up nearly half of the total cost of a project. This is particularly true in developing nations, where the cost of capital can be higher and access to capital markets much more restricted.

Finance can be at the forefront of this effort by providing affordable ways to fund the high upfront capital needs of large renewable energy projects, or finding ways to tap the massive opportunity in distributed energy and energy efficiency. Indeed, our analyses of the competitive dynamics in power markets reveals that financing costs should be a major determinant (in addition to the economic and policy environment) in the economic viability of renewable energy in many regions. Tax credits and subsidies have been ubiquitous as brute force instruments in support of renewables growth, but more will need to be done, especially when public-sector help could be going away.

Significant strides have already been made. Green bond issuance rose from minimal levels in 2012 to just shy of \$100 billion in 2016. Structures for securitizing renewable energy, for more complex domestic and foreign project finance and for reducing currency risk in foreign projects, are some of the innovations in this space. Some private-sector financing also involves construction financing, debt financing (bank term loans and bond market private placements), mezzanine financing (mezzanine debt, leasing, tax equity), pool financing (inverted leases, asset-backed securities

¹³ U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy, *2020 Utility-Scale Solar Goal Achieved*, 2017: <https://energy.gov/eere/sunshot/articles/2020-utility-scale-solar-goal-achieved>.

and derivative hedging (interest rate, FX, commodities and power). Nonrecourse project finance is one of the most important strategies for sourcing and delivering capital to clean energy projects. This area of finance focuses on developing long-lived infrastructure through innovative structures that enable funding of projects that might otherwise be too risky for single investors. As capital-intensive, long-lived infrastructure assets, most renewable energy falls into this category.

More broadly, innovative financial solutions for “new” markets like renewable energy and energy efficiency are supported by several fundamental components: (1) tailoring adaptive solutions to specific projects by combining multiple financing strategies, so that investors with different investment risk profiles and horizons can participate; (2) helping to connect new markets with capital markets by providing transparency and standardization, so that emerging markets can benefit from a bigger pool of capital; and (3) leveraging public-private partnerships to fill critical gaps and mobilize projects that might otherwise not get done.

The public sector could help de-risk projects in ways that could sharply lower the cost of capital and expand the size of private financing into renewable projects. Public-private partnerships represent opportunities for public entities to catalyze or complement private market actors where objectives are aligned. Unlike some developed markets that have strong renewable energy policies, institutional capacity, resource assessment, local expertise and grid connection, developing countries and even some developed markets are still forming their policies. Financial de-risking

instruments aim to transfer risk from the private to the public sectors. They include loan guarantees and public equity co-investments. Green banks, green funds and green loans are also public-sector-sponsored entities or initiatives that aim to provide financing, engage in public-private partnership, transfer risk from the private sector to the public sector (e.g., through loan guarantees) to attract private capital. Direct financial incentives aim to reduce residual risks not eliminated by policy and financial de-risking. These incentives include subsidies, tax credits and explicit price premiums.

Technology, finance and policy are converging in the global effort to promote a greener future. While the capital costs of renewable energy have certainly declined, financial innovation is increasingly critical in this space as diverse solutions expand and evolve to facilitate the recycling of capital and to optimize the allocation of risk and funding of renewable energy projects globally.

To read more on this topic, please visit Citi GPS: Global Perspectives & Solutions at www.citivelocity.com/citigps/.

Financial Accounting Methodology*

BUSINESS	TRANSACTIONS	PRODUCTS	ACCOUNTING METHODOLOGY
Alternative Energy Banking and Finance	Financing for renewable energy projects (e.g., wind, solar and geothermal)	<ul style="list-style-type: none"> • Project Financings • Tax Equity Financings • Equity Capital Markets • Debt Capital Markets • Credit Facilities • Debt (Warehouse and ABS) • Syndicated Loans • Mergers and Acquisitions Advisory 	League table credit: <ul style="list-style-type: none"> • Capital market origination ranking credit is split equally among named bookrunners on a tranche-by-tranche basis – if a deal tranche has no bank named as bookrunner, top-tier managers on that tranche will be credited (e.g., Mandated Lead Arranger) • Mergers and acquisitions advisory services ranking credit is full deal value to both buy-side and sell-side financial advisors and/or banks providing a deal fairness opinion
	Financing for renewable energy, energy efficiency and smart water assets in emerging markets, in partnership with export credit agencies or development banks		
Green Bonds	Designated green bonds (i.e., meets the Green Bond Principles) that are underwritten by Citi	Green Bonds	League table credit: Capital market origination ranking credit is split equally among named bookrunners on a tranche-by-tranche basis – if a deal tranche has no bank named as bookrunner, top-tier managers on that tranche will be credited (e.g., Mandated Lead Arranger)
Public Finance	Municipal bonds falling into one of the following categories: <ul style="list-style-type: none"> • Power/Renewable Energy • Transportation/Mass Transit • Buildings/Energy Efficiency • Waste, Water and Sewage • Green Infrastructure • Pollution Control • Clean Tech 	Municipal Bonds	League table credit: Municipal bond ranking credit allocates league table credit to each bookrunner for their portion of the principal amount of the public finance offering
	Financing for the construction or renovation of affordable housing that achieves one of the following whole-building certifications: <ul style="list-style-type: none"> • LEED • Enterprise Green Communities 		
Commodities	Hedging contract from a renewable power generator producing wind or solar power	<ul style="list-style-type: none"> • Power Hedges • Commodities Derivatives • Renewable Energy Credits (RECs) 	Total notional amount (MWh x price)
Consumer/Commercial Banking	Mortgage services	Citi Mortgage Loan	Total value of the home mortgage loan
	All client exposure for predetermined North American Industry Classification System (NAICS) codes that match Citi's \$100 Billion Environmental Finance Goal criteria	Commercial Banking Services	Total credit extended during the year (measured by change in OSUC, Outstanding and Unfunded Commitments)

*League tables do not exist for all products and services. Where applicable, Citi counted the direct financing provided.

Impact Accounting Methodology

BUSINESS	MODEL INPUTS	ASSUMPTIONS
ESTIMATED ENVIRONMENTAL IMPACTS		
GHG Emissions Avoided		
Alternative Energy Banking and Finance	<p>Renewable Energy Project Financings:</p> <ul style="list-style-type: none"> • Size of installation (MW) • Capacity factor • Project location • Technology type • Citi investment amount <p>Renewable Energy and Energy Efficiency Debt (Warehouse and ABS):</p> <ul style="list-style-type: none"> • Citi investment amount <p>Renewable Energy And Energy Efficiency Assets:</p> <ul style="list-style-type: none"> • Dollar amount of tax-oriented, project-leveraged lease transactions • Technology type • Energy savings, as available 	<p>Overall methodology assumptions:</p> <ul style="list-style-type: none"> • Citi's share of financing is equal to a proportionate share of the GHG avoided from the project • Impacts reflect the per annum benefit as opposed to the benefit over the estimated project life • For U.S.-based transactions, eGRID (nonbaseload) emission rates are used to determine GHG avoided. For international transactions, country-specific emission factors are used • Some calculations use U.S. Energy Information Administration (EIA) emission factors in addition to EPA emission factors • All values are converted to CO₂e using global warming potentials for a 100-year time horizon - IPCC, AR4 • For green housing projects, GHGs are calculated based on the energy saved from choosing to finance green housing over traditional housing (based on EIA's residential consumption survey)
Public Finance	<p>Green Affordable Housing:</p> <ul style="list-style-type: none"> • Building type/Number of housing units • Location • Residential Energy Consumption Survey • Average site energy consumption • Total area in square feet • LEED certification level 	<p>If a data point is not available for a particular input, the following proxy factors are used:</p> <ul style="list-style-type: none"> • MW: Calculated using LCOE capex based on Bloomberg New Energy Finance data (average \$ per MW by respective technology type), divided into total project cost • Capacity factor: EIA, capacity factors for utility scale generators not primarily using fossil fuels • Project location: eGrid U.S. national average
Consumer/Commerical Banking	<p>Green Housing Mortgages - each loan is equivalent to a separate home that is EnergyStar certified:</p> <ul style="list-style-type: none"> • Total number of homes • House location 	
ESTIMATED SOCIAL IMPACTS AND COMMUNITY BENEFITS		
Jobs Supported		
Alternative Energy Banking and Finance	<p>Renewable Energy Project Financings:</p> <ul style="list-style-type: none"> • Upfront capital and procurement costs • Ongoing operational costs, or MW size of installation 	<ul style="list-style-type: none"> • Citi's share of renewable energy project financing is equal to its share of the overall number of jobs created by the project • Employment multipliers based on 195-sector level data from U.S. Bureau of Labor Statistics
Public Finance	<p>Municipal Bonds:</p> <ul style="list-style-type: none"> • Upfront capital ad procurement costs • Ongoing operational costs • Refunding bonds not included <p>Green Affordable Housing Financings:</p> <ul style="list-style-type: none"> • Upfront capital and procurement costs • Ongoing operational costs 	<ul style="list-style-type: none"> • Projects generalized as either water infrastructure or transportation infrastructure • Cost allocations based on generalized sectoral estimates • Employment multipliers based on 195-sector level data from U.S. Bureau of Labor Statistics • Green affordable housing counts LEED-accredited projects only • Differentiation between part-time and full-time employment is not considered • Employment multipliers based on 195-sector level U.S. Bureau of Labor Statistics
Community Benefits		
Public Finance	<p>Mass Transit - Annual Ridership</p> <p>Water Quality Improvements - Population Affected:</p> <ul style="list-style-type: none"> • Total population of the city or county served by the system supported by water quality projects <p>Green Affordable Housing - Families Served:</p> <ul style="list-style-type: none"> • Number of units • Each unit is one family served 	<p>Trips per year taken on all systems supported by Citi's financing activities</p> <ul style="list-style-type: none"> • All city and county water systems are the sole provider of water and sewer service in their population areas • Each city/county is only counted once per year, even if Citi supported multiple issuances for them in that time <p>Green housing units are defined by their whole building certifications:</p> <ul style="list-style-type: none"> • LEED • Enterprise Green Communities

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