

GREEN BANK NETWORK

WEBINAR SERIES

How Do Green Banks Assess and Report Impacts, and Why Is It Important?



Green
Investment
Group

GREEN BANK
NETWORK



NY Green Bank
A Division of NYSERDA

8 March 2018

Green Bank Network Members



**Green
Investment
Group**



GBN Secretariat



Presenters



Gavin Templeton, Head of Sustainable
Finance, Green Investment Group



Caroline Angoorly, Chief Operating Officer,
NY Green Bank

Why report?



- Provides transparency of results
 - To public sector stakeholders that funds are being used effectively to achieve public policy goals
 - To private capital providers that they are achieving financial and non-financial results
- Instructive to investors looking to align portfolio with climate goals

www.greenbanknetwork.org/knowledgecenter

Direct Impacts

TABLE I: SELECT METRICS USED BY GREEN BANKS TO REPORT ON DIRECT IMPACTS

REPORTING CATEGORY	METRIC	GREEN BANK						RELEVANT METRIC DETAILS
		CEFC	CGB	GFO	GTM	NYGB	GIG	
Investments and pipeline	Cumulative green bank capital committed to clean energy projects since inception	✓	✓	✓	✓	✓	✓	NYGB's measure is overall investments to date (without netting any repayments). As part of its current portfolio at any time, NYGB tracks both funds that are committed but not deployed, and deployed amounts. GTM investment is calculated as the amount of private debt it guarantees (which is 60 percent of total private debt).
	Cumulative green bank capital deployed to clean energy projects since inception	✓				✓		CEFC and NYGB report total capital deployed, in addition to total capital committed (but not necessarily deployed).
	Total non- green bank investment in green bank - supported projects	✓	✓	✓	✓	✓	✓	Certain green banks do not explicitly report total non-green bank investment, but it can generally be derived from reported green bank investment and total project value figures.
	Total value of projects supported	✓	✓	✓	✓	✓	✓	
	Leverage or mobilization ratio	✓	✓	✓	✓	✓	✓	CT Green Bank also tracks leverage ratio by sector (C&I, residential, statutory/infrastructure). See Table 2 for green bank-specific definitions of leverage or mobilization ratio.
	Value of pipeline (investments in approval process)	✓			✓	✓	✓	
	Number of transactions closed/ projects completed	✓	✓	✓	✓	✓	✓	CT Green Bank tracks number of projects approved, closed, and completed. Projects "closed" by GTM refers to the number of projects certified to receive funding through the Green Technology Financing Scheme. NYGB tracks projects closed as well as percentage of portfolio by technology category (renewable energy, energy efficiency, other). GFO and GIG post summary lists of closed transactions on their websites.
	Percent of total investment by financial product (loans/leases, credit enhancements, subsidies)		✓					
	Self-sufficiency	✓				✓	✓	CEFC and GIG report on profitability in their annual reports. NYGB reports on its goal of self-sufficiency through cumulative revenue and cumulative expenses, as well as profitability through the provision of annual audited financial statements.

TABLE I: SELECT METRICS USED BY GREEN BANKS TO REPORT ON DIRECT IMPACTS

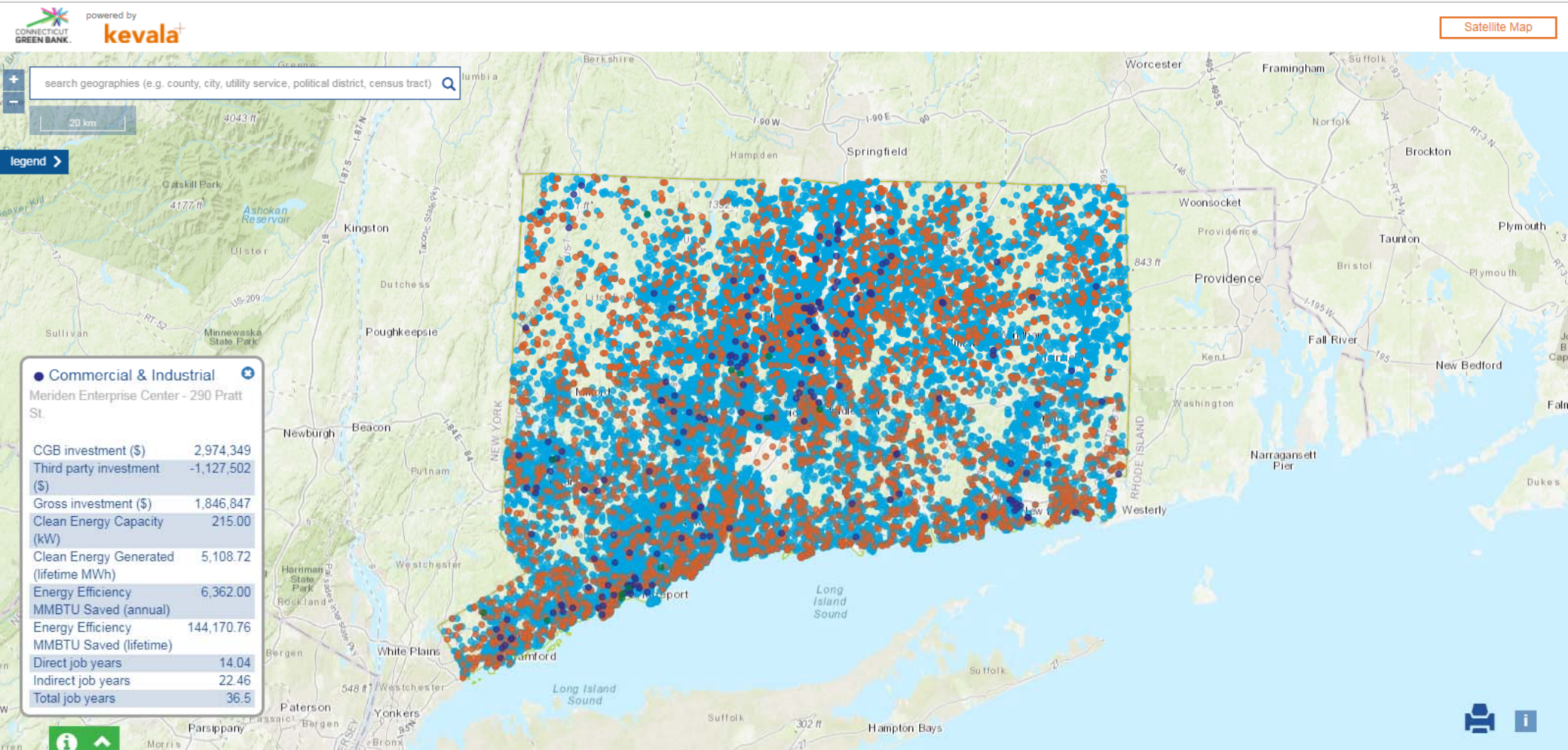
REPORTING CATEGORY	METRIC	GREEN BANK						RELEVANT METRIC DETAILS
		CEFC	CGB	GFO	GTM	NYGB	GIG	
Building industry capacity	Dissemination of information to industry stakeholders	✓				✓		CEFC reports number of publications produced, external presentations, media releases, factsheets, feature articles, and digital presence. NYGB reports on external affairs outreach efforts in quarterly and annual reports.
	Total number of investment counterparties				✓	✓		NYGB tracks number and type of counterparties. For GTM, counterparties are GTFS participating financial institutions.
Energy	Clean energy capacity installed		✓	✓		✓	✓	CT Green Bank, NYGB, ⁹ and GIG report total clean energy capacity installed (MW or GW). GFO reports the installed or planned capacity for most projects. CT Green Bank also reports capacity installed by technology and by sector.
	Clean energy production		✓			✓	✓	CT Green Bank, NYGB, and GIG report lifetime production of clean energy generated (MWh or GWh). NYGB and GIG also report annual generation ("first year" and "average annual," respectively). CT Green Bank reports lifetime production (MWh) by technology and sector.
	Energy savings		✓			✓	✓	CT Green Bank reports expected annual energy savings (MMBtu). NYGB reports expected lifetime energy savings (MWh or MMBtu). GIG reports average annual energy demand reduced (MWh) and energy demand reduced over remaining lifetime (MWh).
Environment	CO ₂ eq emissions reduction	✓ ¹²	✓	✓	✓	✓	✓	CEFC, CT Green Bank, GTM, and GIG report expected lifetime CO ₂ eq emissions reduction of projects supported (in metric tons [Mt] except for GIG, which reports in kt). GFO and GIG report expected annual CO ₂ eq emissions avoided (in metric tons/year and kt/year, respectively). NYGB reports expected annual ("first year") and lifetime GHG emissions reduction (Mt), as well as annual actuals. CT Green Bank reports lifetime CO ₂ eq emissions reduction equivalents for cars removed from the road and trees planted.
	NOx emissions reduction		✓					CT Green Bank reports NOx emissions reduction over portfolio lifetime and annually.
	Impacts on the natural environment						✓	GIG reports the percentage of projects in its portfolio that, based on environmental impact assessments, have a positive, neutral, and negative impact.
	Impacts on biodiversity						✓	GIG reports the percentage of projects in its portfolio that, based on environmental impact assessments, have a positive, neutral, and negative impact.
	Waste diverted from landfills						✓	GIG reports waste diverted over portfolio lifetime and annually (t).
	Materials recycled						✓	GIG reports waste recycled over portfolio lifetime and annually (t).

Reporting frameworks differ based on context, but..

Key issues that green banks must commonly account for in reporting frameworks include:

- Data collection
- Data analysis
- Impact attribution
- Performance monitoring
- Data verification

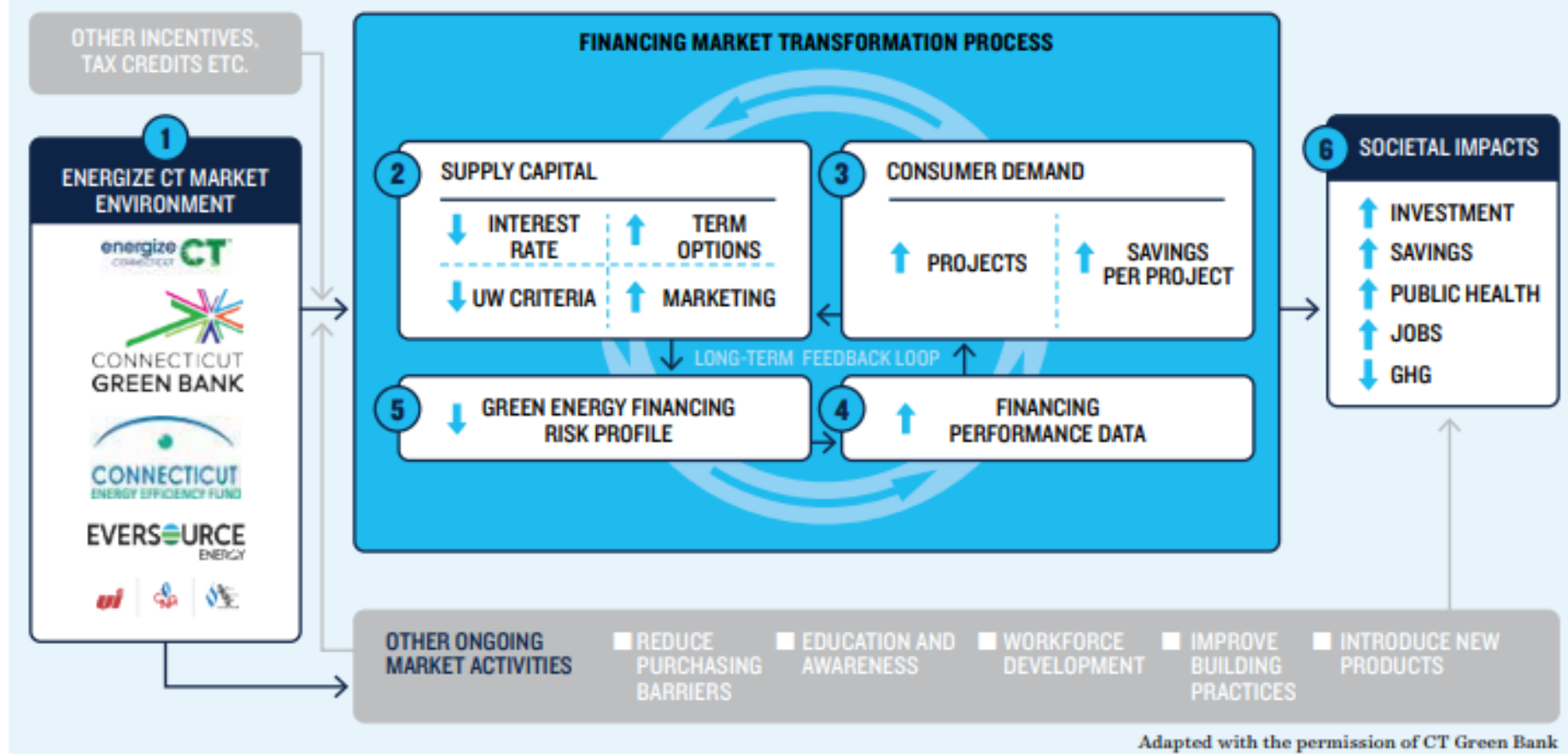
CT Green Bank Impact Map



<https://www.ctgreenbank.com/strategy-impact/impact/>

Market Transformation

FIGURE I. CONNECTICUT GREEN BANK PROGRAM LOGIC MODEL





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Pioneering Green Investment

How we do 'green' at the Green Investment Group

Gavin Templeton, Head of Sustainable Finance

March 2018



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Green
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01

Introduction

We were established to meet a policy need...



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...in the UK...

Reduction in
**Greenhouse
Gas Emissions**



Increase in
proportion of
renewable energy



Reduction in
**biodegradable
waste to landfill**



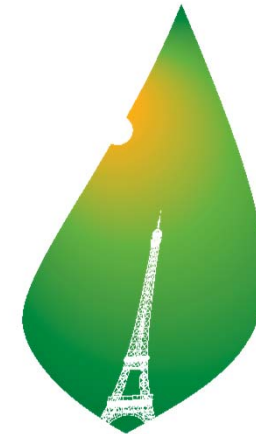
Notes: 1) vs 1990 levels; 2) from 3% in 2010; 3) vs 1995 levels;

We were established to meet a policy need...



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...and now Globally



PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21•CMP11



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02

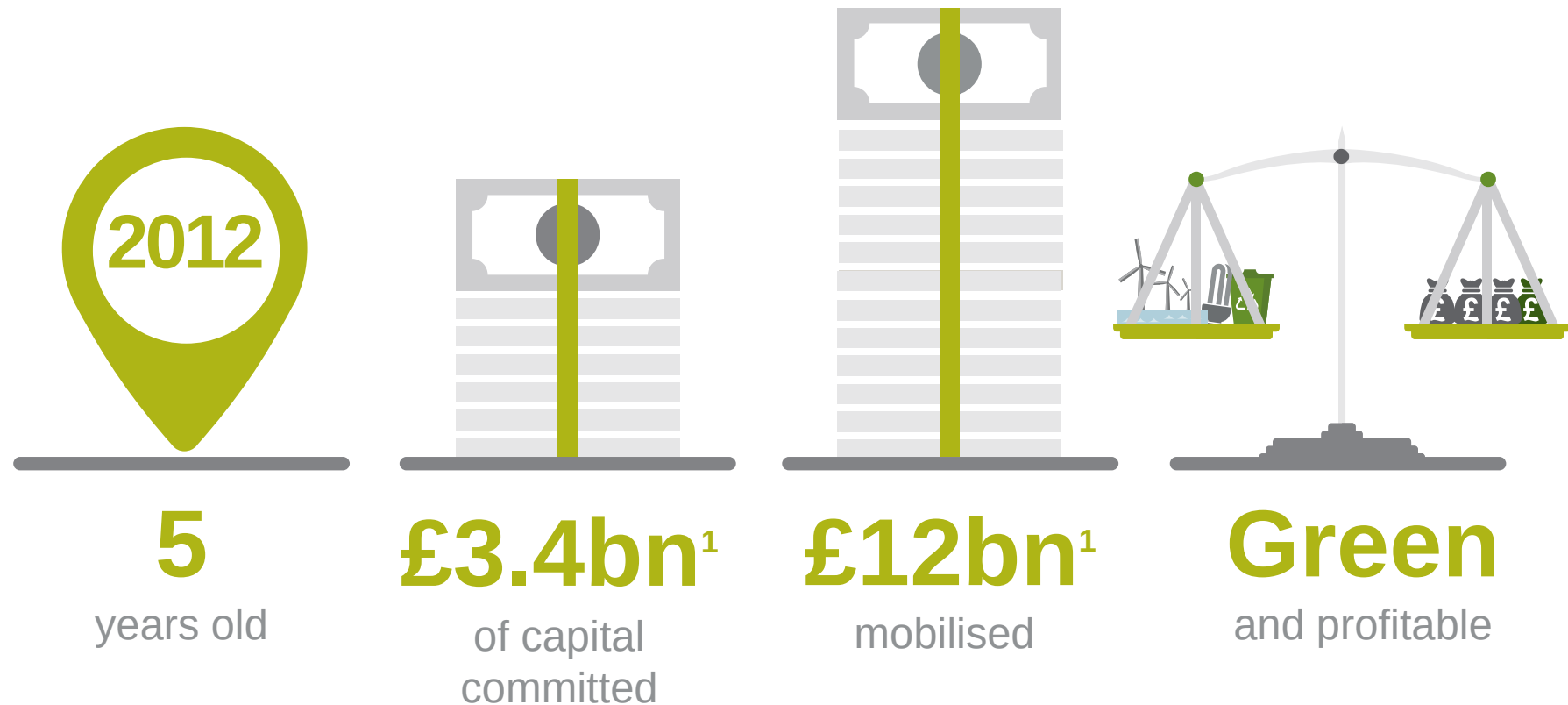
Green Investment Group:
A market leader in innovation

The UK Green Investment Bank was a world first



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The GIB has now become the GIG, and under Macquarie ownership it continues to expand internationally as a centre of global expertise in green investment



¹ As of 31st March 2017

Calculating Green Impact is what we do

To date our methods are tried and tested on green infrastructure worth over £12bn

We have committed

£3.4bn¹
of capital to over
100 projects

Our tried and tested green impact approach is integrated into every investment for both

debt and equity

Our investment portfolio, when built, will make significant contributions over their lifetime to

greening the economy

Our Green Impact¹



>21.5TWh
renewable energy

equivalent to
the energy
consumed by

5.1m
homes



8.0m
tonnes CO₂e avoided

equivalent to
the greenhouse
gases
emitted by

>3.5m
cars



¹ As of 31 March 2017. <http://www.greeninvestmentgroup.com/media/185901/gib-annual-report-2016-17-final.pdf>

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PAGE 16

We are aligned with the emerging global standard



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We are leading a group of international finance institutions, who have created a harmonised approach for GHG accounting published at the Paris COP



Support from
UNFCCC



The approach is consistent and comparable across geographies and technologies:

- GIG is at the forefront of supporting the development of the Harmonised Approach
- GHG calculation methodology is now standardised and is globally consistent
- Investors will be able to compare project-level GHG impact on a like-for-like basis
- Individual projects can be aggregated for portfolio-level reporting
- Also aligns with Green Bond Principles impact reporting recommendations



Our approach to green impact reporting is pioneering



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Investors will be required to disclose the environmental impact of their portfolio. This could build on our Green Impact Statements which appears in our annual report

Disclosure of climate / carbon impacts will be required by Asset Owners and Asset Managers:

- Consider and disclose quantified negative impacts of their investment portfolio (carbon footprint).
- By disclosing green impact, the contribution to the transition to the low carbon economy / and alignment with Paris Agreement is demonstrated to stakeholders.

GIG's methods disclose positive impact:
'redress the balance'

Carbon footprint disclosure methodologies are
relatively well-defined and understood

Asset

Positive
environmental
impacts



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Green Ratings



Climate
Disclosure
Standards
Board



ASSET
OWNERS
DISCLOSURE
PROJECT

Liability

Negative
environmental
impacts

Our handbook is already a market reference

The Green Investment Handbook is recognised globally and is now one of the most visited and downloaded parts of our website. We ensure the same rigorous & standardised approach is applied for our partners and the broader market

Practical guide to integrating green into investment process...



This handbook should help bring greater consistency and standardisation to green investing for both new and existing players investing in green infrastructure globally

Rt Hon Greg Clark

Secretary of State for Business,
Energy and Industrial Strategy



...promoted and adopted for use internationally



Department for
Business, Energy
& Industrial Strategy



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03

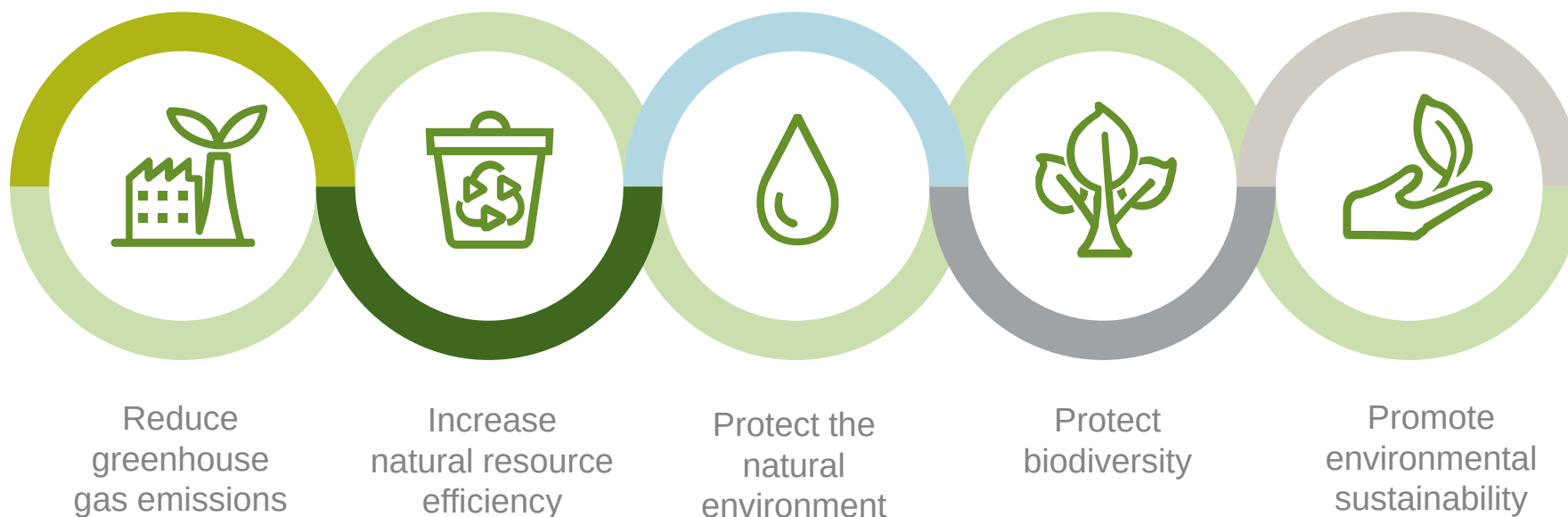
Standardised Green Investment: Principles, Policy and Process

We are green



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Our investment strategy targets maximum 'green impact'. We define 'green impact' through five measures – our 'green purposes'



We defined “green investment” from the top down



Green Investment Group

We developed a framework to mainstream green investment. This is illustrated in our Principles, Policies and the Green Investment Handbook process

Principles

Principle 1

Positive contribution to a recognised green purpose

Principle 2

Reduction of global greenhouse gas emissions

Principle 3

Enduring green impact

Principle 4

Clear and firm investment criteria

Principle 5

Robust green impact evaluation

Principle 6

Effective covenants, monitoring and engagement

Principle 7

Transparent reporting

Principles implemented through our **Green Investment Policy**

Policy



Practical processes we use day-to-day are set out in **The Green Investment Handbook**

Process

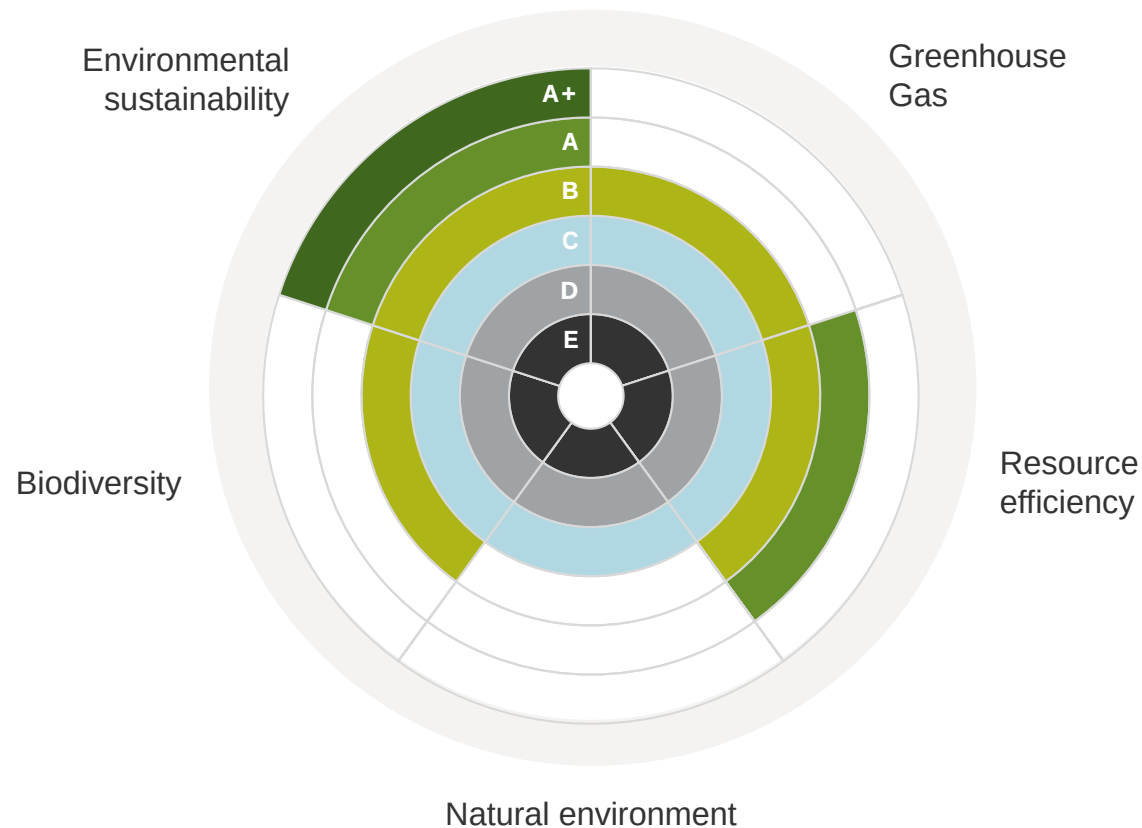


Our Green Ratings systems is the first of a kind



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The system allows transparent side-by-side comparison on green performance against each of our Green Purposes



And we are unique in our consideration of Green Risk



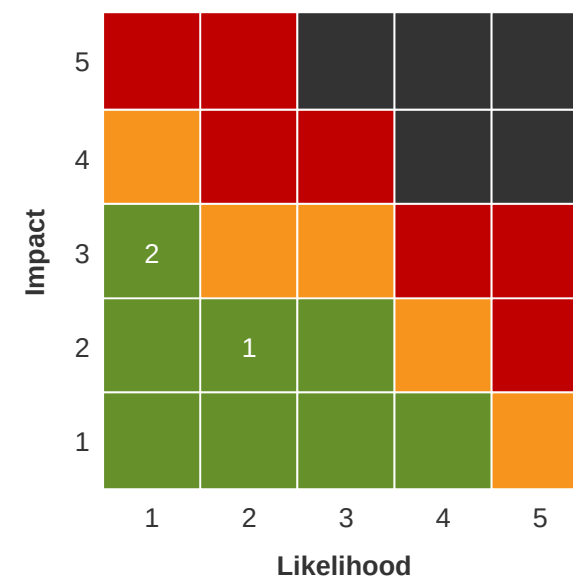
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The risk of Green Impact forecast underperformance

#	Risk	Inherent Risk Ratings		Mitigant / Control (rationale for effect on likelihood and impact ratings)	Residual Risk Ratings		Actions / safeguards
		Likelihood (1-5)	Impact (1-5)		Likelihood (1-5)	Impact (1-5)	
1							
2							
3							

Example table and radar for Investment Committee

#	Green Risk	Current Mitigant / Control
1	Biomass feedstock not meeting GIB's sustainability criteria	Robust DD on fuel procurement strategy Covenants to ensure maintain high standards of sustainability (e.g. carbon stock, country risk reporting)
2	Other material risks identified	Other Key Control / Safeguards





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04

Commercialising our IP
Green Products and Services

Our green products and services are unique



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Drawing on our unparalleled track record for green impact disclosure, we can offer services which have been tried and tested on over £12bn of green infrastructure

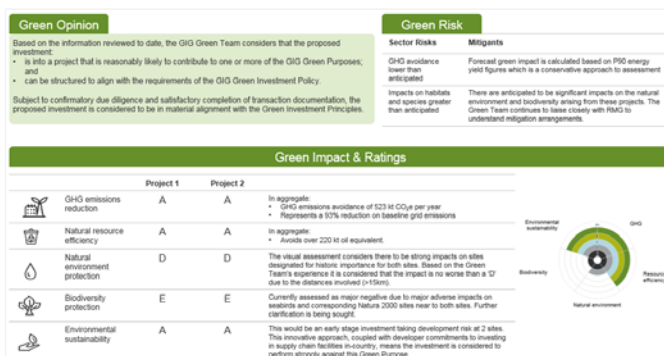
Green Reports

Green Impact Report



- High-level assessment of a project or portfolio
- Focused on greenhouse gas emissions avoided
- Assesses selected key green KPIs, (forecast and actual)
- Considers contribution to UN Sustainable Development Goals
- Attributes a GIG Carbon Rating (AAA to E)
- Designed for public disclosure¹

Green Ratings



- Full, in-depth assessment of a project/portfolio against all five of GIG's green purposes
- Includes site-specific analytics requiring a significant level of data, resources and professional opinion
- Attributes GIG Green Ratings (AAA to E)
- Supports investment decision making
- Compulsory and confidential report for all GIG's own investments



Green Advisory Services



- Collaborative knowledge sharing and capacity building
- Provision of bespoke support in setting up institutional green investment processes
- Implementation of the Green Investment Handbook, tools and templates.

¹ For report examples see <http://www.greeninvestmentgroup.com/green-impact/green-impact-reports/>

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How Do Green Banks Assess & Report Impacts & Why is it Important?

NY Green Bank

Green Bank Network Webinar | March 8, 2018

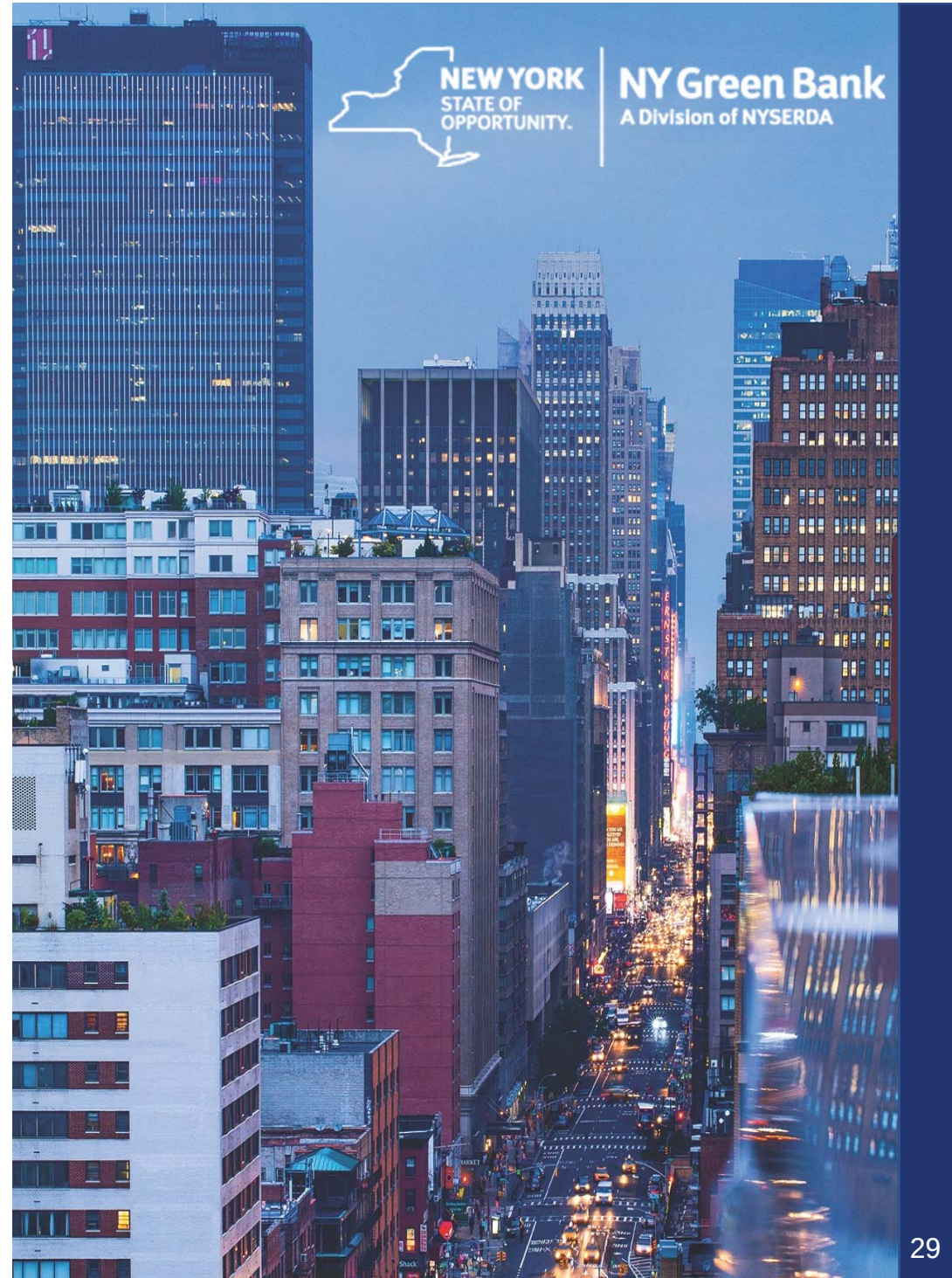


NY Green Bank
A Division of NYSERDA

New York, NY

Agenda

- New York's Evolving Energy Landscape
- Goals & Targets: State, Clean Energy Fund & NY Green Bank
- Metrics
- Goals, Targets & Metrics Underpin Performance Tracking





New York's Evolving Energy Landscape



NEW YORK
STATE OF
OPPORTUNITY.

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Rochester, NY

Antiquated & Inefficient Energy Infrastructure

Increasingly extreme weather events show how vulnerable the current system is to severe damage

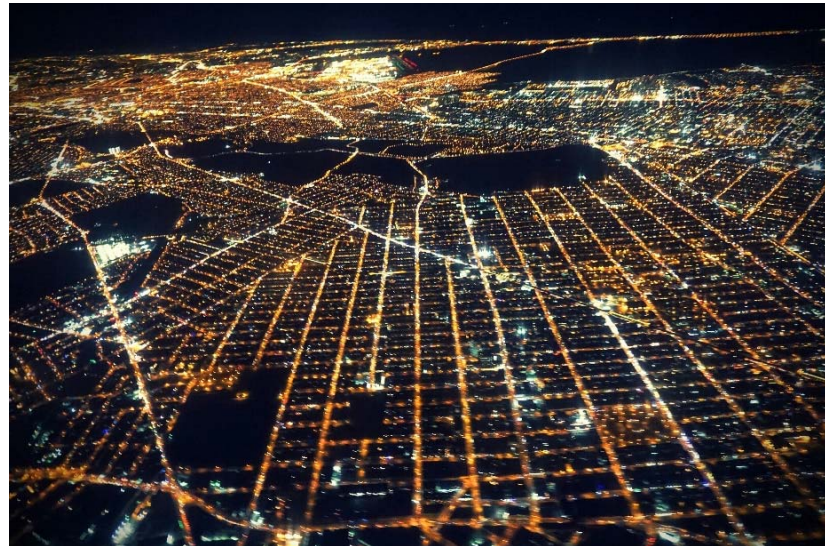


Maintaining the Current System is Expensive

\$30+ Billion

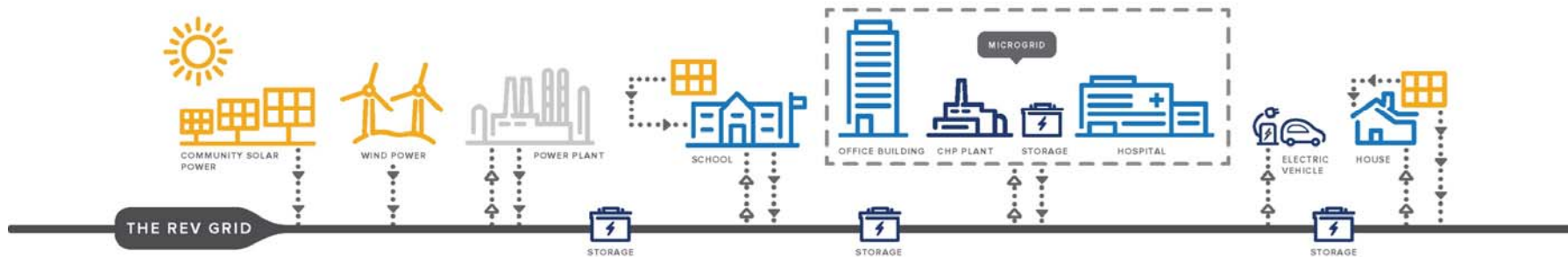
Amount required to maintain and or replace New York's aging electric transmission and distribution infrastructure just to meet currently projected demand*

This is nearly double the \$17 Billion invested in New York State's grid over the past decade



* 2015 New York State Energy Plan

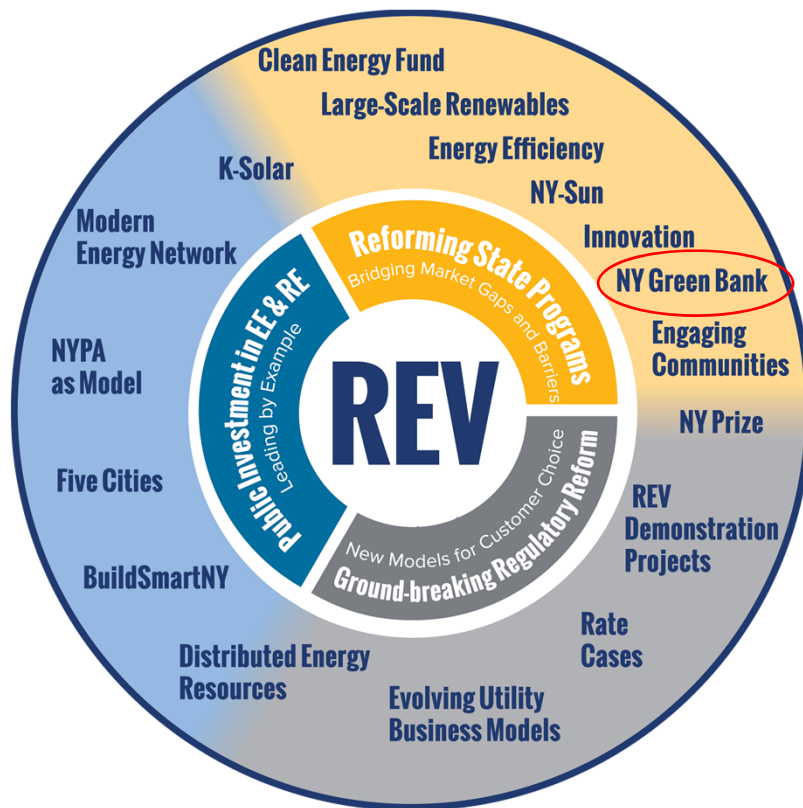
New York's Solution: Reforming the Energy Vision (REV)



Reforming the Energy Vision (REV):

Governor Andrew M. Cuomo's comprehensive strategy to create an efficient, reliable, and affordable clean energy system in New York – runs through all State policy, agencies and initiatives

Three Main Components of REV



NY Green Bank is strategically positioned to mobilize greater private sector activity in New York's clean energy markets

NY Green Bank

Mission:

To accelerate clean energy deployment in New York by working in collaboration with the private sector to transform financing markets

- **What:** A \$1 Billion State-sponsored investment fund established and capitalized by Order of the NYS Public Service Commission
- **How:** By mobilizing greater private sector activity to increase the availability of capital for clean energy and sustainable infrastructure projects
- **Why:** To alleviate financing gaps in New York's clean energy markets and create a more efficient, reliable, and sustainable energy system

A photograph of the Buffalo skyline at night, featuring the Buffalo City Tower and other buildings reflected in the water. The sky is a deep blue, and the city lights are visible.

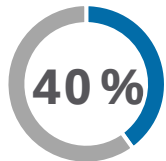
Goals & Targets: State, Clean Energy Fund, NY Green Bank



NY Green Bank
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Buffalo, NY

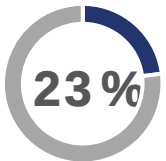
NY State's Clean Energy Goals for 2030



Reduction in greenhouse gas emissions from 1990 levels



New York State's electricity must come from renewable energy sources



Decrease in energy consumption of buildings from 2012 levels

Clean Energy Fund (CEF) & NY Green Bank Targets

Impact Benefit Targets

CEF Lifetime Benefits (in millions)						
Portfolio	MWh	MMBtu	CO2 (tons)	Bill Savings	Private Investment	Leverage Ratio
Market Development	137	491	76	\$20,412	\$8,875	4.23
Innovation and Research	*	*	*	*	\$3,265	5.00
NY-SUN	88	*	28	\$12,810	\$9,216	9.60
NY Green Bank	62	137	29	\$5,909	\$8,000	8.00

10-Year CEF Cumulative First Year Annual Market Development and NYGB Benefits		
	MWh	MMBtu
Market Development	8,663,932	33,575,415
NYGB	4,129,368	9,153,285

Key Financial Targets

Must be self-sufficient (targeted by end of FY 17-18 (i.e., March 31, 2018) – achieved full year early)

\$1.9 billion in investments over a 10-year period (including recycling), equating to ~\$5.7 billion in total new clean energy investment in NYS over the CEF term

Metrics



NEW YORK
STATE OF
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Brooklyn, NY

Development of Impact Metrics

"NYSERDA shall collaborate with DPS Staff to develop metrics for the evaluation of the Green Bank's performance in **meeting the State's clean energy and energy efficiency goals**, as well as metrics for **evaluating operational performance, risk management, and financial and market metrics, and a proposal for reporting** the Green Bank's performance against those metrics."

Initial Capitalization Order, Dec 19, 2013, page 25



NY Green Bank

Metrics, Reporting & Evaluation Plan

Case 13-M-0412

June 20, 2016

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Schedules

1. Definitions
2. Metrics Plan – Initial Milestones, Background & Development
3. Transaction Profile Template

NYGB_Metrics_Reporting_Evaluation_3.0_Final.docx

"Transparency of information and clarity of benefits is paramount, we further direct NYGB, in consultation with Staff, to review the Metrics, Evaluation and Reporting Plan to determine if other revisions are needed to properly **track and assess NYGB progress on an ongoing basis**. This review **shall include input from stakeholders** to ensure the result provides the type and level of information that enables NYGB to **meet its objectives** while **providing knowledge and building confidence** that these investments **represent good value to ratepayers**."

Clean Energy Fund Framework Order, Jan 21, 2016, page 81



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Quarterly Metrics

Quarterly Metric	Prior Quarter	Current Quarter
Capital Position		
▪ Authorized Capital (\$)	\$[●]	\$[●]
▪ Authorized Administrative Expenses (\$)	\$[●]	\$[●]
▪ Authorized Evaluation Expenses (\$)	\$[●]	\$[●]
Operational Matters		
▪ Cumulative Revenues (\$)	\$[●]	\$[●]
▪ Cumulative Operating Expenses (\$)	\$[●]	\$[●]
▪ Direct Operating Expenses (\$)	\$[●]	\$[●]
▪ Allocated Expenses (\$)	\$[●]	\$[●]
▪ Credit Facility (if in place)		
▪ Credit Facility Amount (\$)	\$[●]	\$[●]
▪ Credit Facility Drawn Amount (\$)	\$[●]	\$[●]
▪ Credit Facility Fees & Interest (Cumulative) (\$)	\$[●]	\$[●]
Investment Portfolio		
▪ Committed Funds (\$)	\$[●]	\$[●]
▪ Deployed Funds (\$)	\$[●]	\$[●]
▪ Current Portfolio (\$)	\$[●]	\$[●]
▪ Overall Investments to Date (\$)	\$[●]	\$[●]
▪ Total Project Costs (Cumulative) (\$)	In the range of \$[●] - \$[●]	In the range of \$[●] - \$[●]
▪ Mobilization Ratio	Tracking at least [●]:1 on average across portfolio	Tracking at least [●]:1 on average across portfolio
▪ Portfolio Concentrations (%)	[●]% Renewable Energy	[●]% Renewable Energy
	[●]% Energy Efficiency	[●]% Energy Efficiency
	[●]% Other	[●]% Other

Quarterly Metrics (cont.)

Quarterly Metric	Prior Quarter	Current Quarter
Investment Portfolio (cont.)		
▪ Number & Type of NYGB Investments	[●] – Renewable Energy	[●] – Renewable Energy
	[●] – Energy Efficiency	[●] – Energy Efficiency
	[●] – Other	[●] – Other
▪ Number & General Type of NYGB Counterparties	[●] – Local Development Corporation; Global, Corporate and/or Investment Bank; Regional Bank; Specialty Finance Company; Energy Project Developer; Municipal, University, Schools & Hospitals; Energy Technology Provider & Vendors; Government Authority; Insurance Company	[●] – Local Development Corporation; Global, Corporate and/or Investment Bank; Regional Bank; Specialty Finance Company; Energy Project Developer; Municipal, University, Schools & Hospitals; Energy Technology Provider & Vendors; Government Authority; Insurance Company
▪ Estimated Gross Lifetime Energy Saved by Fuel Type from Energy Efficiency Projects (MWh/MMBtu) and/or Estimated Gross Lifetime Clean Energy Generated (MWh) for Committed Funds & Deployed Funds	Estimated Gross Lifetime Energy Saved by Fuel Type (Energy Efficiency): [●] – [●] MWh; and [●] – [●] million MMBtu	Estimated Gross Lifetime Energy Saved by Fuel Type (Energy Efficiency): [●] – [●] MWh; and [●] – [●] million MMBtu
	Estimated Gross Lifetime Clean Energy Generated: [●] – [●] million MWh	Estimated Gross Lifetime Clean Energy Generated: [●] – [●] million MWh
▪ Estimated Gross First Year Energy Saved by Fuel Type from Energy Efficiency Projects (MWh/MMBtu) and/or Estimated Gross First Year Clean Energy Generated (MWh) for Committed Funds & Deployed Funds	Estimated Gross First Year Energy Saved by Fuel Type (Energy Efficiency): [●] – [●] MWh; and [●] – [●] MMBtu	Estimated Gross First Year Energy Saved by Fuel Type (Energy Efficiency): [●] – [●] MWh; and [●] – [●] MMBtu
	Estimated Gross First Year Clean Energy Generated: [●] – [●] MWh	Estimated Gross First Year Clean Energy Generated: [●] – [●] MWh
▪ Estimated Gross Lifetime Energy Saved from CHP (MWh) for Committed Funds & Deployed Funds	Estimated Gross Lifetime Energy Saved from CHP: [●] – [●] MWh	Estimated Gross Lifetime Energy Saved from CHP: [●] – [●] MWh

Quarterly Metrics (cont.)

Quarterly Metric	Prior Quarter	Current Quarter
Investment Portfolio (cont.)		
▪ Estimated Gross First Year Energy Saved from CHP (MWh) for Committed Funds & Deployed Funds	Estimated Gross First Year Energy Saved from CHP: [●] – [●] MWh	Estimated Gross First Year Energy Saved from CHP: [●] – [●] MWh
▪ Estimated Gross Lifetime Energy Savings from CHP (MMBtu) for Committed Funds & Deployed Funds	Estimated Gross Lifetime Energy Savings from CHP: [●] – [●] MMBtu	Estimated Gross Lifetime Energy Savings from CHP: [●] – [●] MMBtu
▪ Estimated Gross First Year Energy Savings from CHP (MMBtu) for Committed Funds & Deployed Funds	Estimated Gross First Year Energy Savings from CHP: [●] – [●] MMBtu	Estimated Gross First Year Energy Savings from CHP: [●] – [●] MMBtu
▪ Estimated Gross Clean Energy Generation Installed Capacity from CHP (MW), if applicable, for Committed Funds & Deployed Funds	[●] MW	[●] MW
▪ Estimated Gross Clean Energy Generation Installed Capacity (MW), if applicable, for Committed Funds & Deployed Funds	[●] – [●] MW	[●] – [●] MW
▪ Estimated Gross Lifetime GHG Emission Reductions (metric tons) for Committed Funds & Deployed Funds	[●] – [●] million metric tons	[●] – [●] million metric tons
Investment Pipeline		
▪ Active Pipeline (In the Quarter) (\$)	\$[●]	\$[●]
Investment Process		
▪ Proposals Received – Value (Cumulative) (\$)	\$[●]	\$[●]
▪ Approvals - Scoring Committee (Cumulative) (\$)	\$[●]	\$[●]
▪ Approvals - Greenlight Committee (Cumulative) (\$)	\$[●]	\$[●]
▪ Approvals - IRC (Cumulative) (\$)	\$[●]	\$[●]

Annual Actual Energy & Environmental Metrics

Energy & Environmental Benefit	Prior Year Increment	Prior Year Cumulative	Current Year Increment	Current Year Cumulative
Installed energy saved by fuel type from energy efficiency projects (MWh/MMBtu) and/or installed clean energy generated (MWh)	Energy Saved by Fuel Type (Energy Efficiency): [●] MWh; and [●] MMBtu	Energy Saved by Fuel Type (Energy Efficiency): [●] MWh; and [●] MMBtu	Energy Saved by Fuel Type (Energy Efficiency): [●] MWh; and [●] MMBtu	Energy Saved by Fuel Type (Energy Efficiency): [●] MWh; and [●] MMBtu
	Clean Energy Generated: [●] MWh	Clean Energy Generated: [●] MWh	Clean Energy Generated: [●] MWh	Clean Energy Generated: [●] MWh
Installed energy savings from CHP (MWh)	[●] MWh	[●] MWh	[●] MWh	[●] MWh
Installed energy savings from CHP (MMBtu)	[●] MMBtu	[●] MMBtu	[●] MMBtu	[●] MMBtu
Installed CHP capacity (MW), if applicable	[●] MW	[●] MW	[●] MW	[●] MW
Installed clean energy generation capacity (MW), if applicable	[●] MW	[●] MW	[●] MW	[●] MW
Installed GHG emission reductions (metric tons)	[●] metric tons	[●] metric tons	[●] metric tons	[●] metric tons

Annual Financial Metrics

Annual Metric	Prior Fiscal Year	Current Fiscal Year
Financial Position		
▪ Audited Financials	See “Audited Financial Statements” available at www.greenbank.ny.gov/About/Public-Filings	[Included in the Appendix to the Annual Financial Metrics Report]
Investment Quality & Risk		
▪ Portfolio Impairment	[●]%	[●]%
Investment Portfolio Benefits		
▪ Return on Investment (%)		
▪ Annual ROI		
▪ Gross	[●]%	[●]%
▪ Net	[●]%	[●]%
▪ Cumulative ROI		
▪ Gross	[●]%	[●]%
▪ Net	[●]%	[●]%
▪ Capital Redeployment Cycle Time	[●] Years	[●] Years

Transaction Profiles & Independent Evaluations

Transaction Profiles

- As NYGB financing/investment agreements are executed, a standard profile is populated with summary information, plans and methods about each transaction covering:
 - A description of the transaction, including identification of the key parties and the type of investment made by NYGB
 - Market objectives and barriers being addressed
 - Estimated energy and environmental benefits
 - Plan for collecting associated requisite data
 - Proposed method of outcome/impact evaluation by NYSERDA
- Support evaluation design and other information needs

Independent Evaluations

- Impact
- Market
- Process
- Commencing in 2018

A night-time photograph of the Rochester, NY skyline. In the foreground, a large waterfall cascades over a stone structure. Behind the waterfall, several tall buildings are illuminated, including a prominent red brick building and a modern glass skyscraper with a lit-up top. The sky is a deep blue.

Goals, Targets & Metrics Underpin Performance Tracking



NY Green Bank
A Division of NYSERDA

Rochester, NY

Overarching Goals, KPIs & Metrics

NYGB Goals	Key Performance Indicators	Metrics
Attract Capital to Clean Energy Capital Markets in NYS	▪ Mobilizing capital	▪ Mobilization Ratio of Total Project Costs (Cumulative) to NYGB investment
	▪ Portfolio driving material clean energy investments across NYS	▪ Total Project Costs (Cumulative) enabled by NYGB (\$)
	▪ Growing portfolio	▪ Overall Investments to Date (\$)
	▪ Strong Active Pipeline	▪ Active Pipeline (\$)
	▪ Stimulating new clean energy proposals in NYS	▪ Investment proposals received (cumulative) (\$)
Be Self-Sufficient	▪ Revenue growth paving the way to self-sufficiency	▪ Revenues (cumulative) (\$) ▪ Expenses (cumulative) (\$)
Deliver Energy & Environmental Impact Benefits	▪ Contributing to CEF objectives and in turn REV and the CES (by supporting increased deployment of renewable energy, distributed energy & energy efficiency)	▪ Estimated energy and environmental benefits: ▪ Lifetime energy saved by fuel type from energy efficiency projects (MWh/MMBtu) and/or Lifetime clean energy generated (MWh); ▪ First-Year energy saved by fuel type from energy efficiency projects (MWh/MMBtu) and/or estimated First-Year clean energy generated (MWh); ▪ Lifetime and First-Year energy saved from CHP (MWh); ▪ Lifetime and First-Year energy savings from CHP (MMBtu); ▪ Clean energy generation installed capacity (MW) from CHP;

Overarching Goals, KPIs & Metrics (cont.)

NYGB Goals	Key Performance Indicators	Metrics
Deliver Energy & Environmental Impact Benefits (cont.)	Contributing to CEF objectives and in turn REV and the CES (by supporting increased deployment of renewable energy, distributed energy & energy efficiency) (cont.)	- Estimated energy and environmental benefits (cont.): - Other clean energy generation installed capacity (MW); and - GHG emissions reductions (metric tons); and - Installed energy and environmental benefits: - Energy saved by fuel type from energy efficiency projects (MWh/MMBtu) and/or actual clean energy generated (MWh); - Primary energy saved from CHP (Btu); - Clean energy generation installed capacity (MW), if applicable; and - GHG emissions reductions (metric tons).

Performance at a Glance – As of December 31, 2017

NYGB continues to **breakeven on a cumulative basis** with Cumulative Revenues in excess of Cumulative Expenses. NYGB closed **\$16.6 million** of new clean energy investments in New York State.

Stimulating New Clean Energy Proposals in the State

Proposals received for over **\$2.3 billion** in NYGB investment since inception

Strong Active Pipeline ⁽¹⁾

Active Pipeline of transactions moving towards closing is **\$673.2 million**

Driving Material Clean Energy Investments Across NYS

Investments support clean energy projects with total project costs between **\$1.27 and \$1.50 billion**, based on Overall Investments to Date of **\$457.5 million**

Mobilizing Capital

NYGB's investment portfolio as a whole represents expected mobilization ratio on track at or above **3:1**; over 10 years on track to meet or exceed **8:1**

Revenue Growth Maintaining Self-Sufficiency

\$27.6 million in cumulative revenues generated since inception, including **\$4.6 million** in Q4 2017. Cumulative Revenues in excess of Cumulative Expenses (**\$22.7 million**)

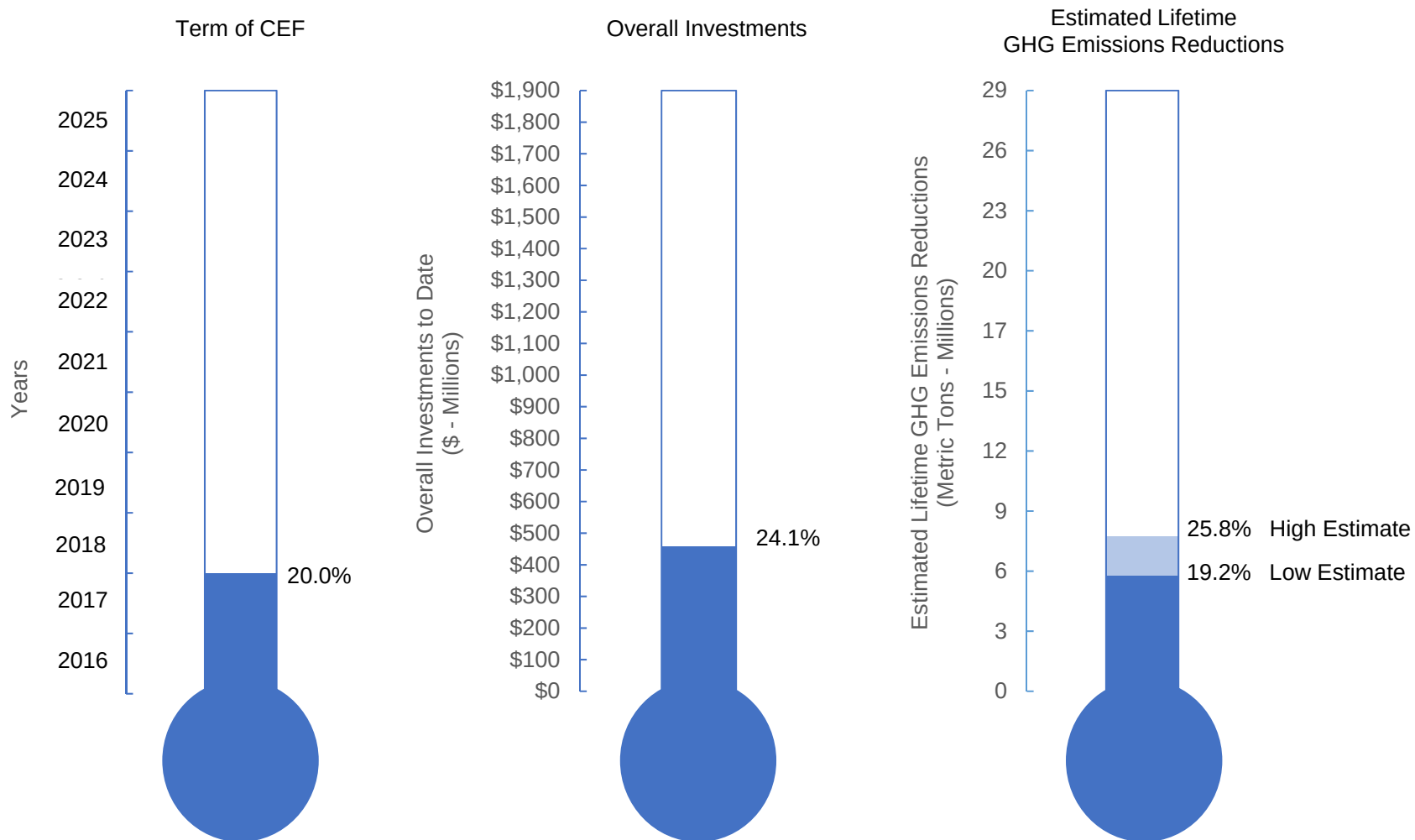
Contributing to CEF Objectives, REV & the CES

Estimated lifetime GHG reductions between **5.6 and 7.5 million metric tons**, equivalent to removing **55,135 – 72,900 cars** off the road for **22 years**

Q4 Metrics Report was filed February 14, 2018, pursuant to the Metrics, Reporting & Evaluation Plan v3.0 and is available at www.greenbank.ny.gov/Resources/Public-Filings.

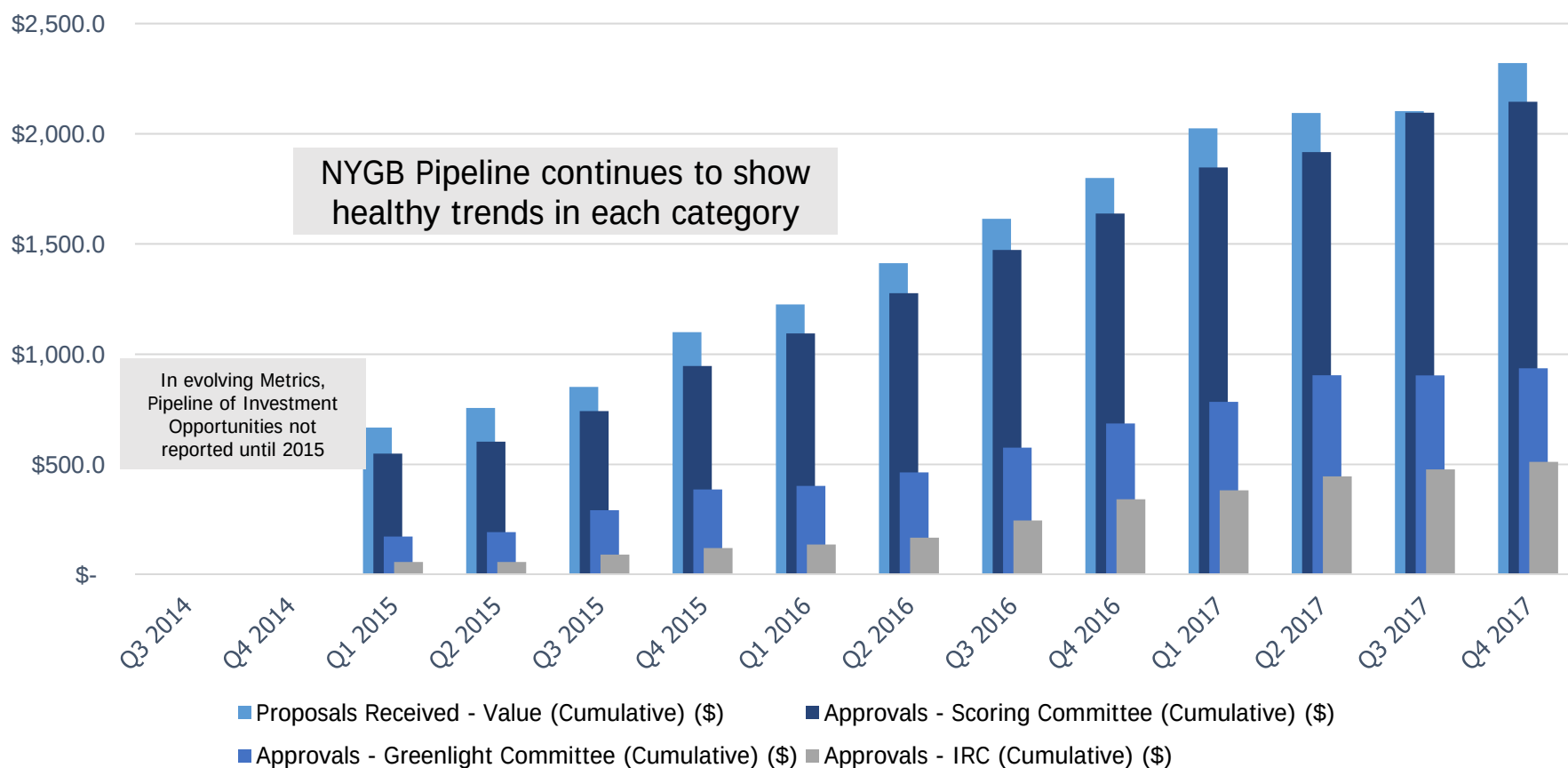
(1) "Active Pipeline" means, at any time and for any period, the sum (expressed in dollars) of the proposed NYGB investment amount in all NYGB active transactions in the Pipeline where, in relation to each transaction: (a) there is agreement in principle between the parties; (b) there is momentum in moving the transaction forward; (c) conditions to investment are expected to be met; and (d) NYGB is dynamically proceeding towards and through "greenlight" recommendation, IRC approval and transaction execution. Unlike other Metrics that are cumulative measures since NYGB Inception, "Active Pipeline" is a point in time measure. As momentum behind individual transactions fluctuates while advancing towards execution due to various factors, including many not under NYGB's control, transactions may move in and out of the Active Pipeline at any given time.

Progress Toward Targets - As of December 31, 2017



Pipeline of Investment Opportunities

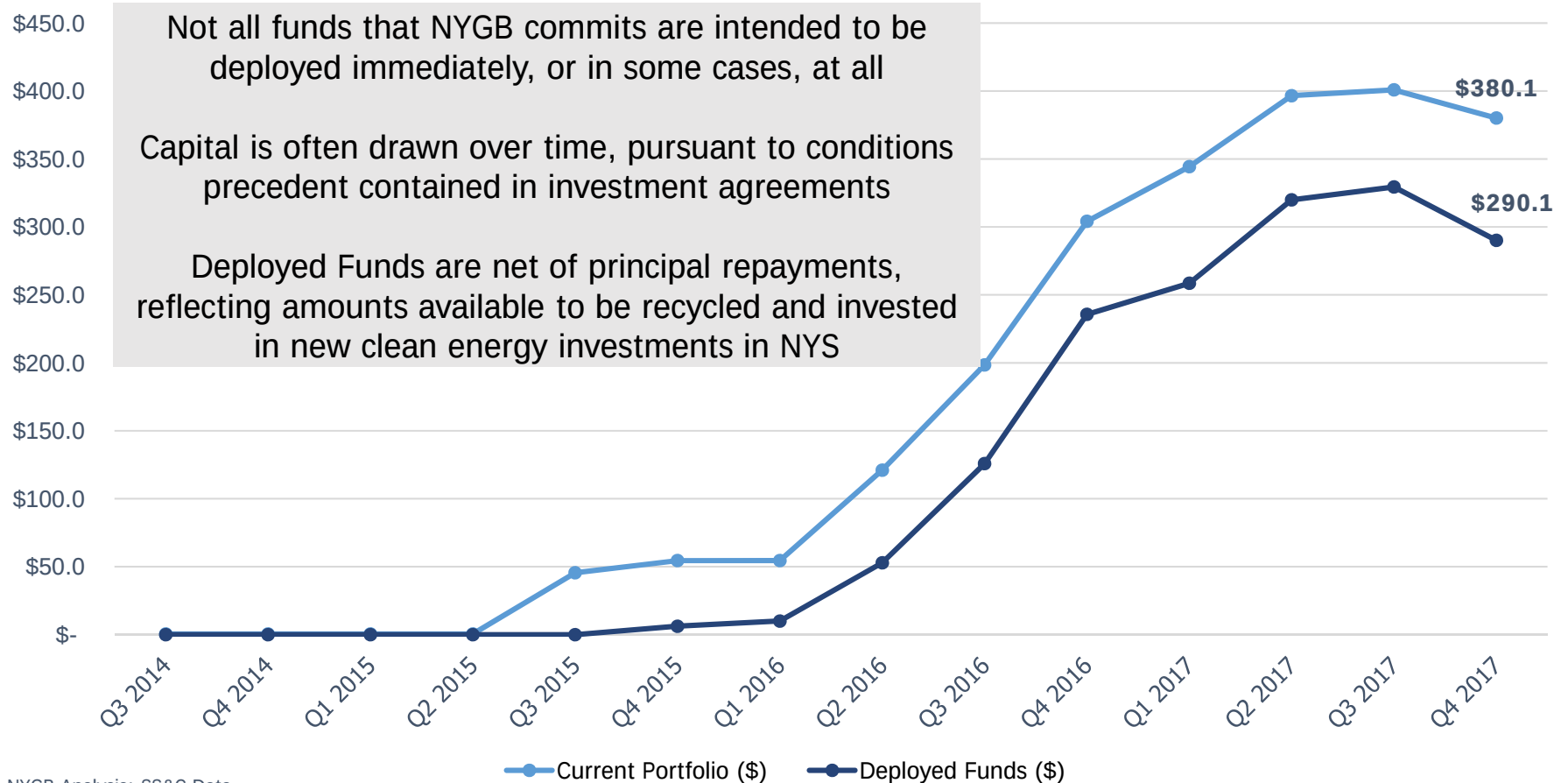
NYGB Pipeline of Proposals & Approvals (\$ million)



NYGB Analysis; DealCloud Data

Investment Portfolio

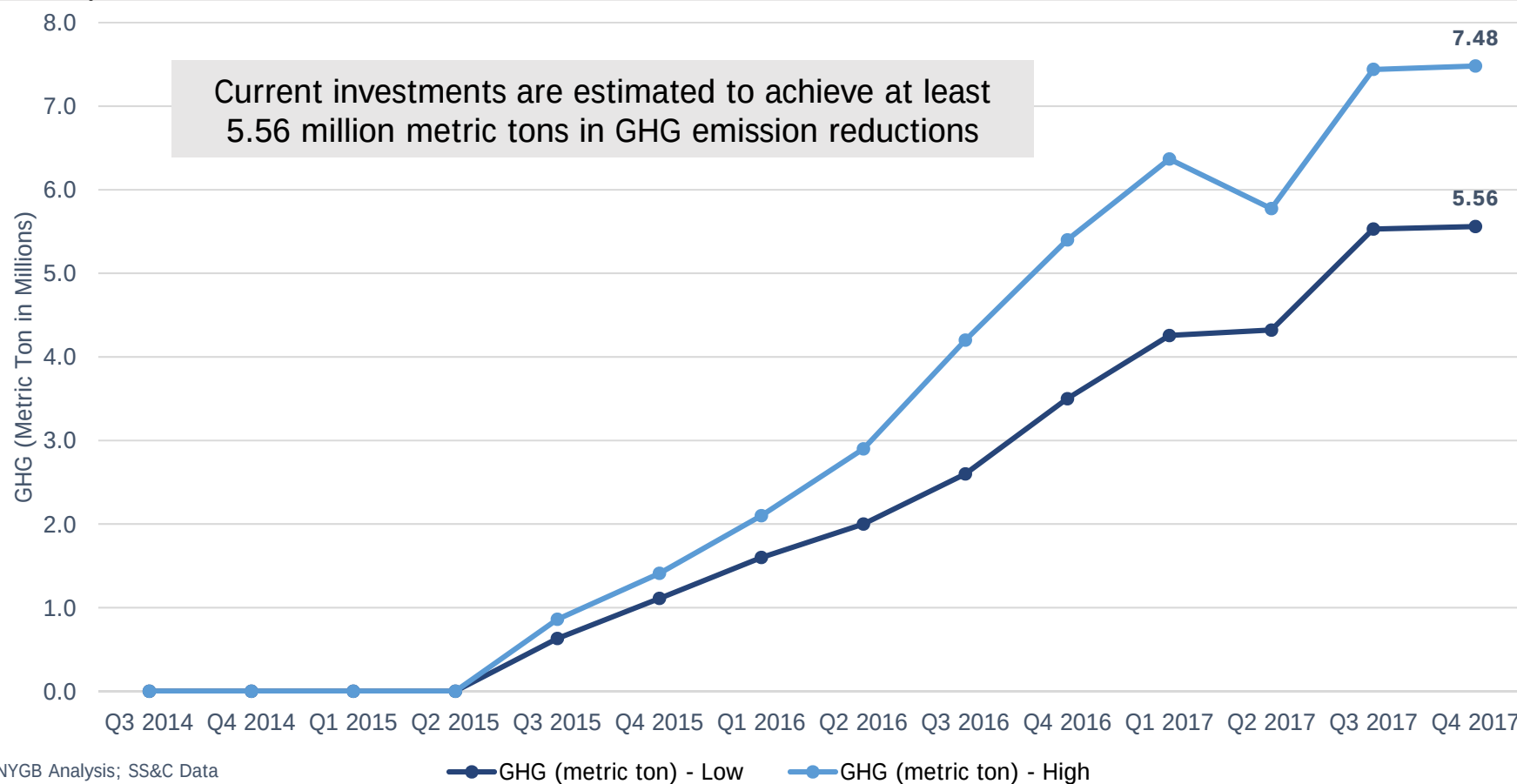
NYGB Current Portfolio vs. Deployed Funds (\$ million)



NYGB Analysis; SS&C Data

Estimated Lifetime GHG Emission Reductions

Estimated Gross Lifetime GHG Emission Reductions for Committed Funds & Deployed Funds (Metric Tons in millions)



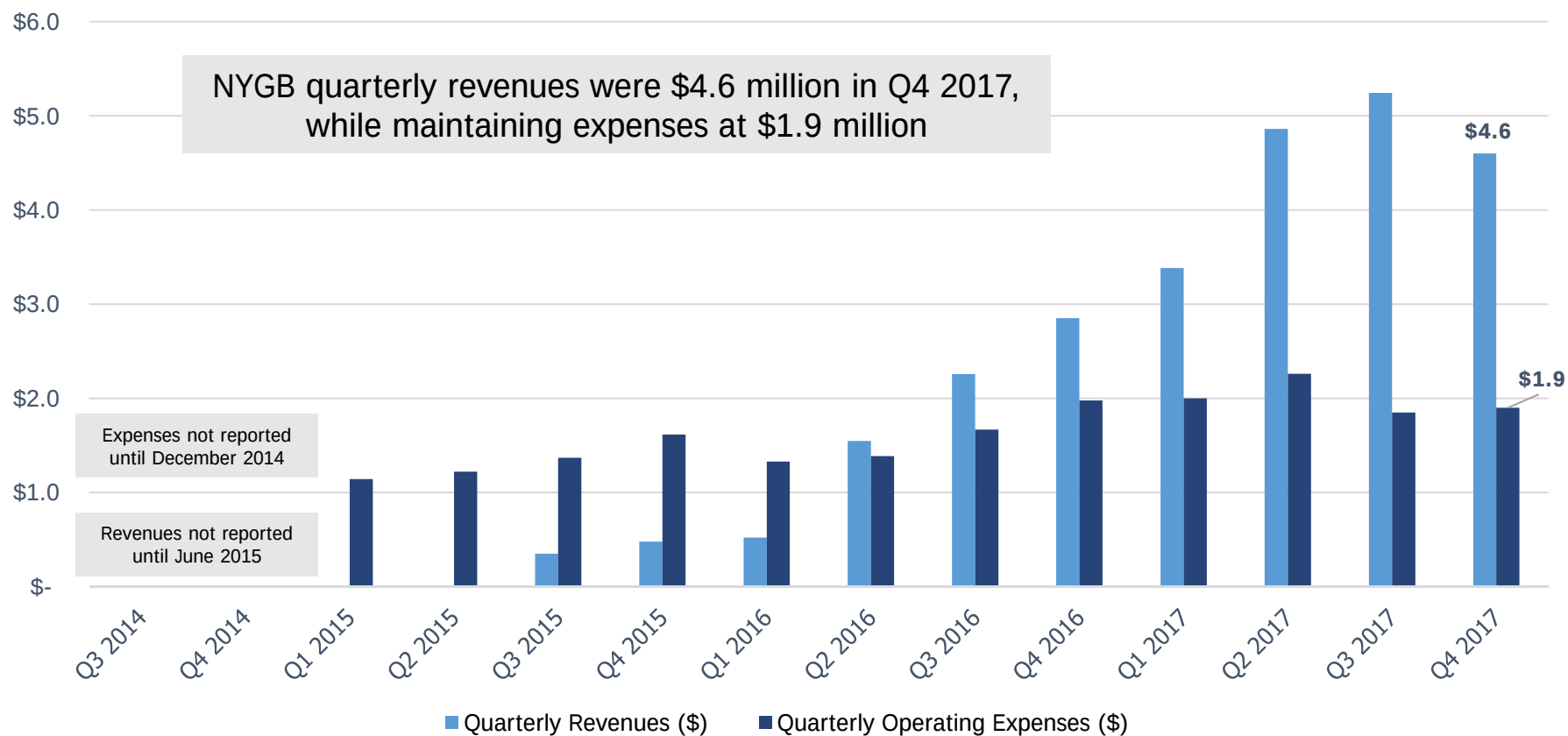
NYGB Analysis; SS&C Data



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Revenues & Expenses (Quarterly)

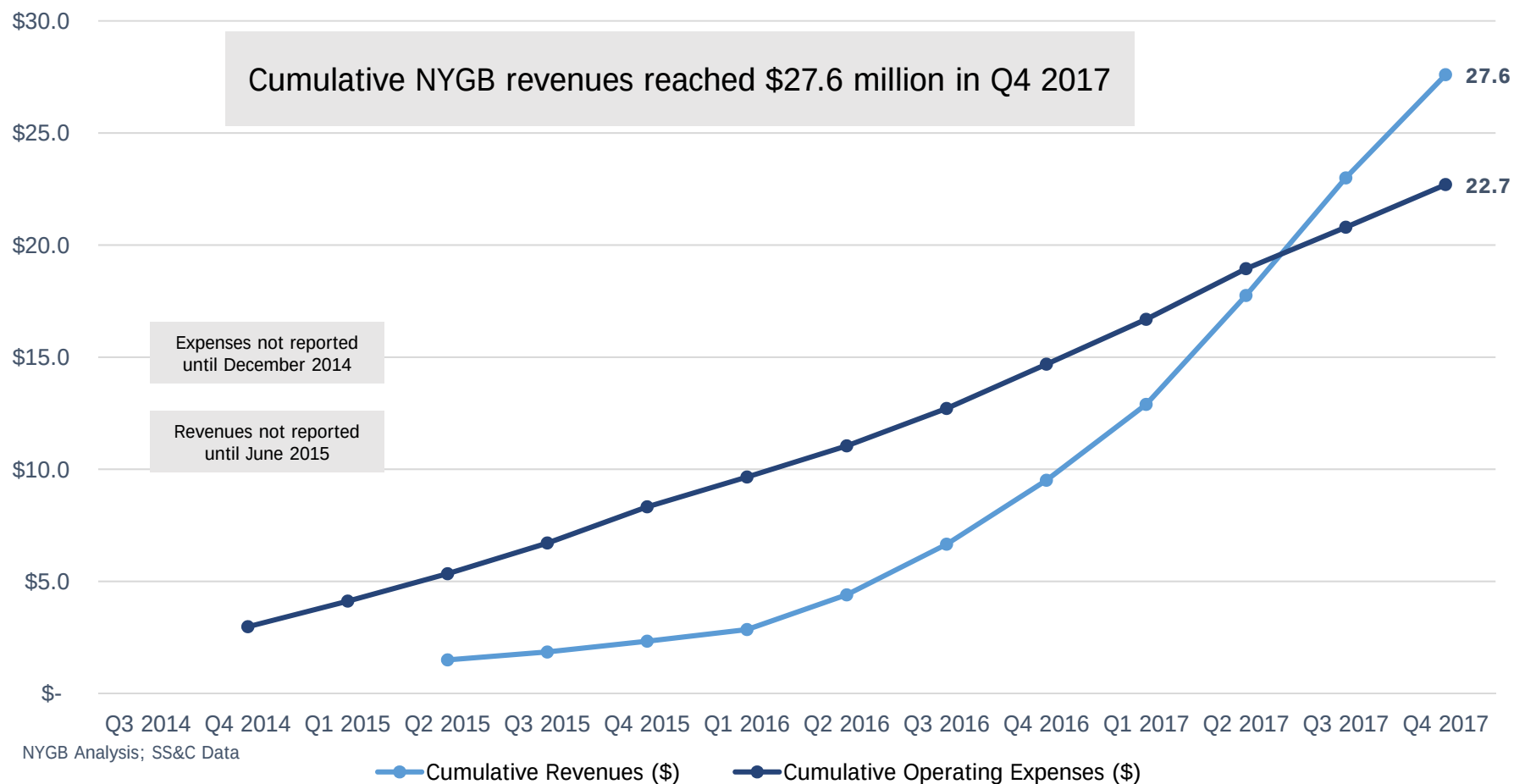
Quarterly Revenues vs. Expenses (\$ million)



NYGB Analysis; SS&C Data

Revenues & Expenses (Cumulative)

Cumulative Revenues vs. Cumulative Expenses (\$ million)



Questions and Thank You



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