

State-Federal RPS Collaborative Webinar

Results of the New York RPS Program Review

Hosted by
Warren Leon, Executive Director, CESA

December 13, 2013

Housekeeping

- All participants will be in listen-only mode throughout the broadcast.
- We suggest that you connect to the audio portion of the webinar using VOIP and your computer's speakers or USB-type headset. You can also connect by telephone. If by phone, please expand the Audio section of the webinar console to select "Telephone" to see and enter the PIN number shown on there onto your telephone keypad.
- You can enter questions for today's event by typing them into the "Question Box" on the webinar console. We will pose your questions, as time allows, following the presentation.
- This webinar is being recorded and will be made available after the event on the CESA website at www.cleanenergystates.org/webinars/

About CESA

Clean Energy States Alliance (CESA) is a national nonprofit organization working to implement smart clean energy policies, programs, technology innovation, and financing tools, primarily at the state level. At its core, CESA is a national network of public agencies that are individually and collectively working to advance clean energy.

State-Federal RPS Collaborative

- With funding from the Energy Foundation and the US Department of Energy, CESA facilitates the **Collaborative**.
- Includes **state RPS administrators, federal agency representatives,** and other stakeholders.
- Advances dialogue and learning about RPS programs by **examining the challenges and potential solutions** for successful implementation of state RPS programs, including **identification of best practices**.
- To sign up for the Collaborative listserve to get the **monthly newsletter** and announcements of **upcoming events**, see: www.cleanenergystates.org/projects/state-federal-rps-collaborative

Today's Guest Speakers

Doreen Harris, Associate Project Manager, Energy and Environmental Markets and Smart Grid, Clean Energy Research and Market Development, NYSERDA

Carl Mas, Senior Project Manager, Policy & Program Development, Energy Analysis, NYSERDA



New York State Renewable Portfolio Standard 2013 Main Tier Program Review

**Doreen Harris
Carl Mas**

December 13, 2013

Main Tier 2013 Program Review

Approach and Structure

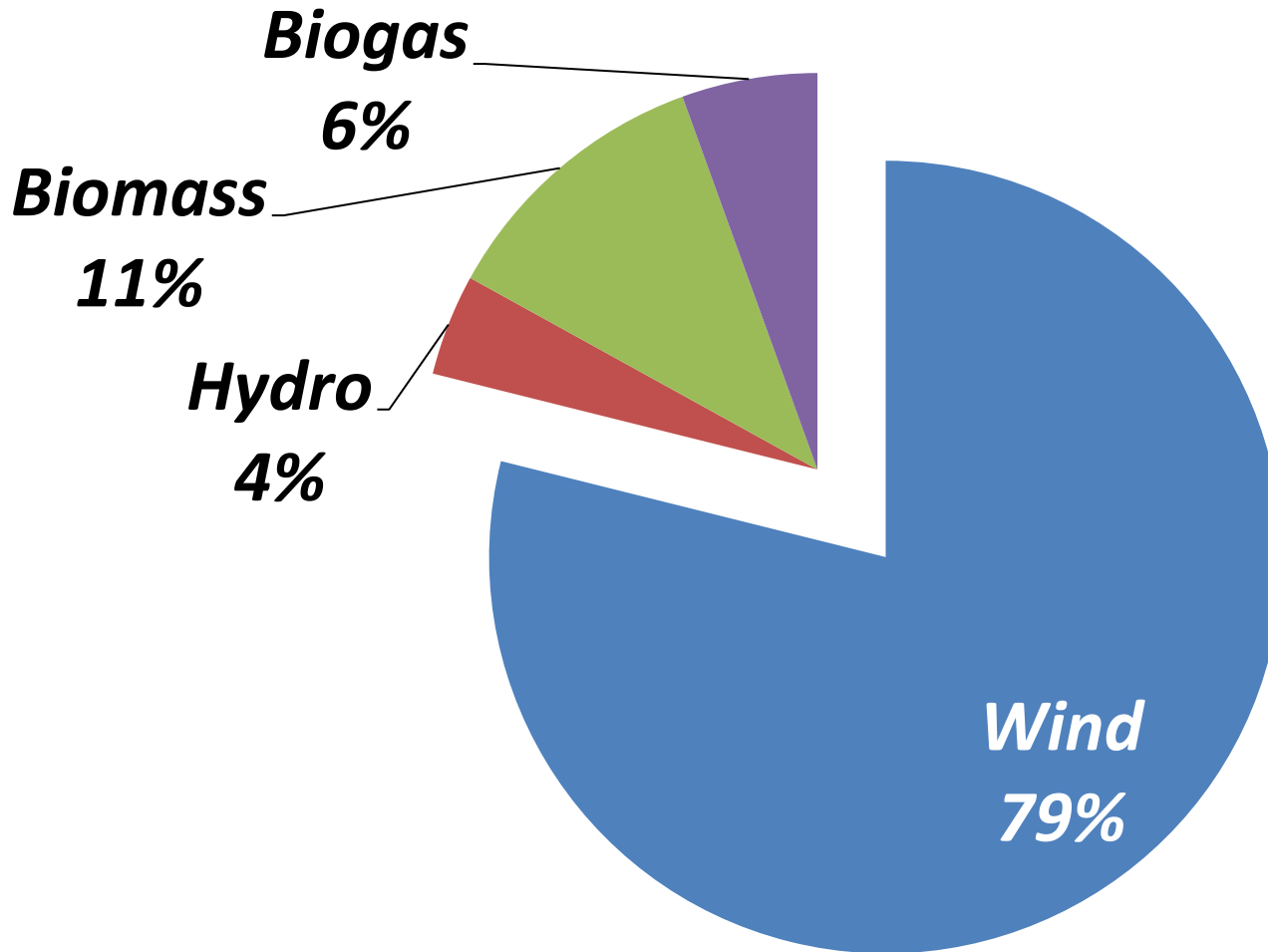
- Many areas of the Program were extensively considered in the 2009 RPS Program Evaluation Report and addressed through subsequent Commission Orders
- 2013 Program Review focused on:
 - Main Tier Status (Volume 1)
 - Main Tier Current Portfolio Analysis (Volume 2)
 - Direct economic impacts
 - Benefit-Cost Analyses; and
 - Macroeconomic analysis.
 - Projected Impact from Using Available Uncommitted Funds (Volume 3)

Main Tier Status – December 31, 2012

- 7 Completed Main Tier Solicitations:
1,834 MW of new renewable capacity under contract
- 8th Solicitation in Progress

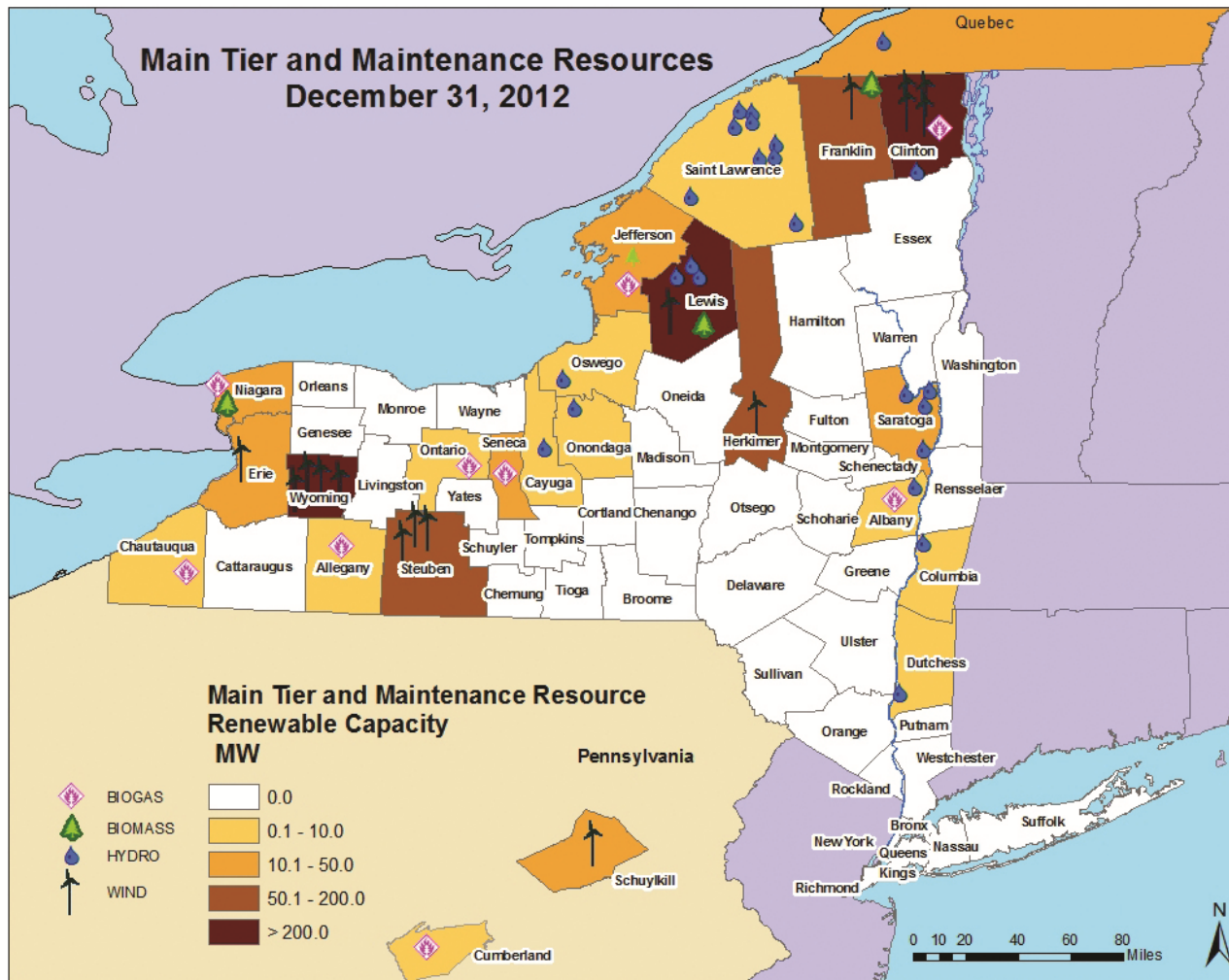
Contracted Progress (MWh)	2015 Target (MWh)	% Progress
4,486,656	9,519,765	47%
Committed (millions \$)	Budget (millions \$)	% of Budget Committed
\$876.6	\$2,301.3	38%

Cumulative Annual Contracted Generation



Volume 2: Figure 3.

Resource Summary



Volume 1, Figure 1.

Current Portfolio Analysis

- **Direct Cost: Main Tier Expenditures**
- **Direct Investments in New York**
- **Electric System Impacts**
- **Environmental Impacts**
- **Benefits and Costs**
- **Macroeconomic Analysis**

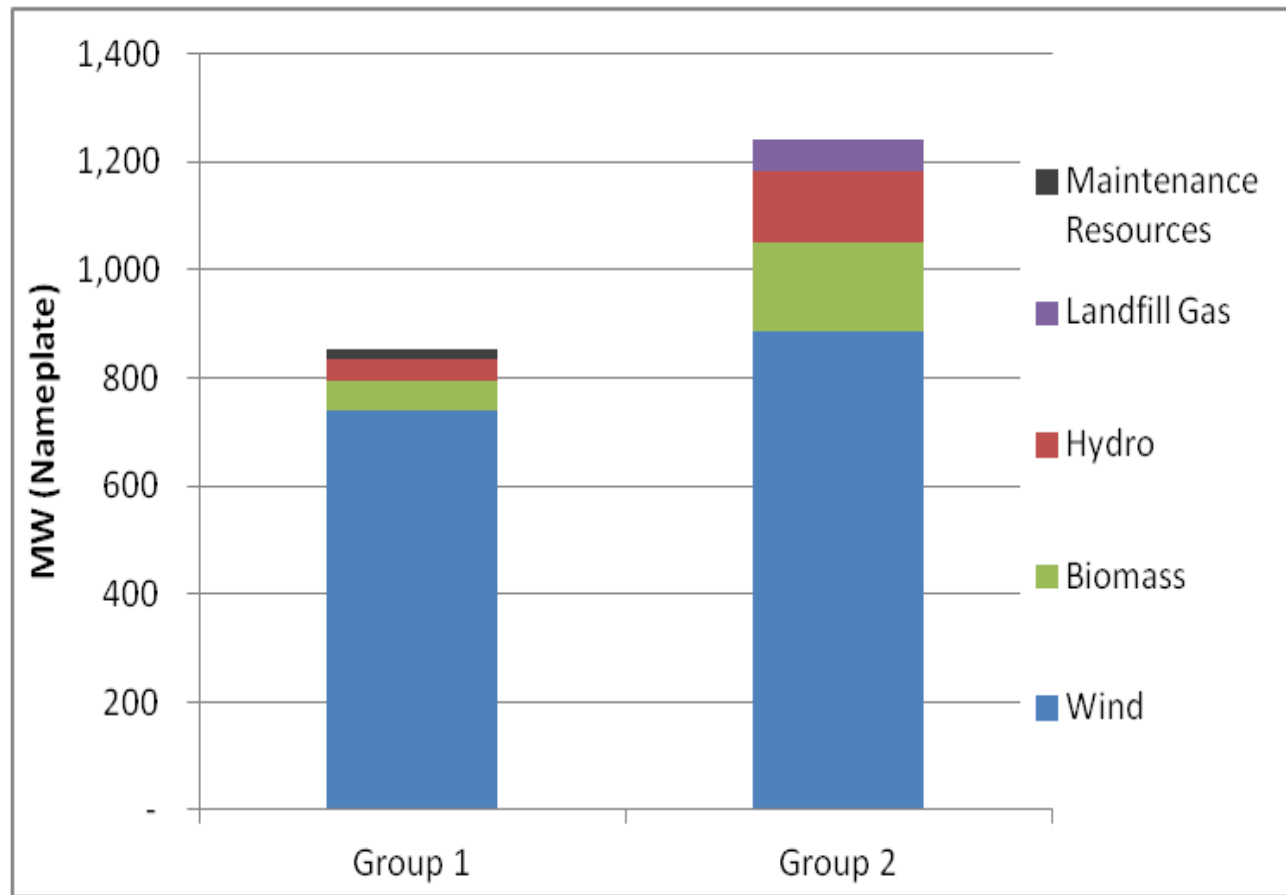
Direct Investments in New York

- Extensive data was collected as part of RPS program administration to verify direct investments in New York claimed by bidders
- This data was used as an input to Benefit-Cost and Macroeconomic analyses



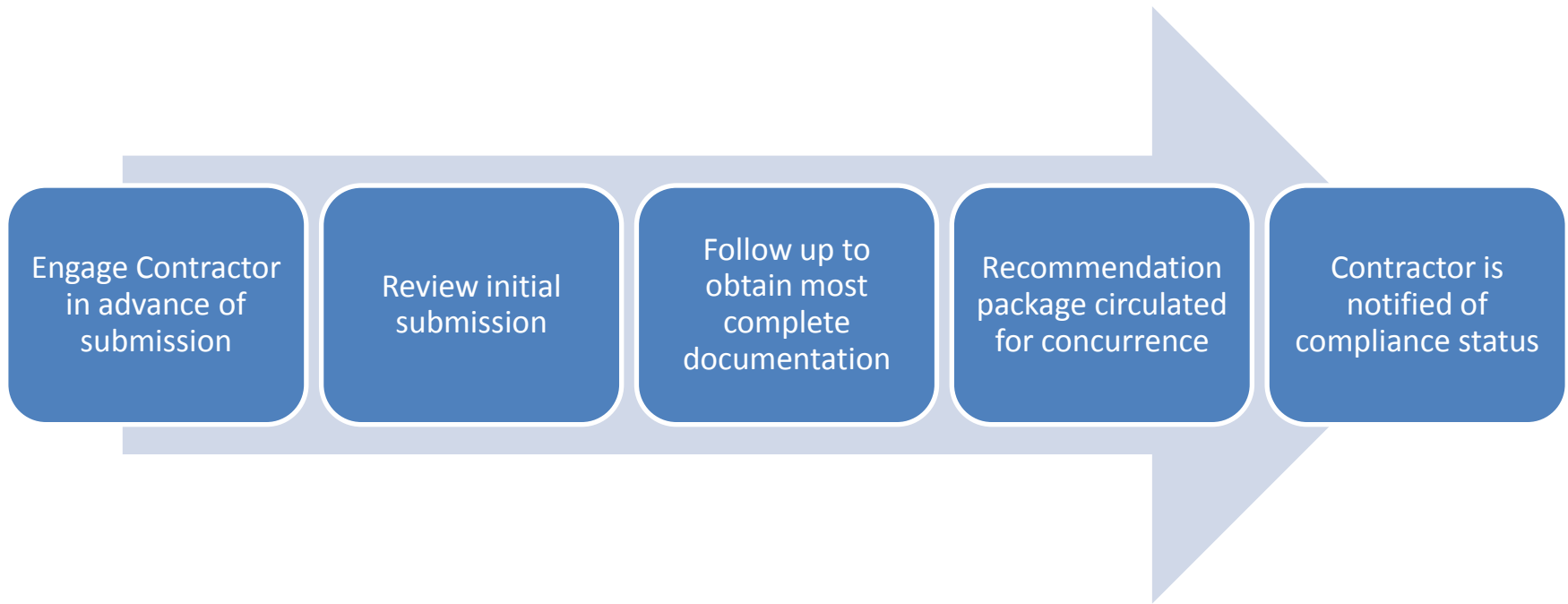
Direct Investments in New York

Nameplate Capacity by Technology and Group

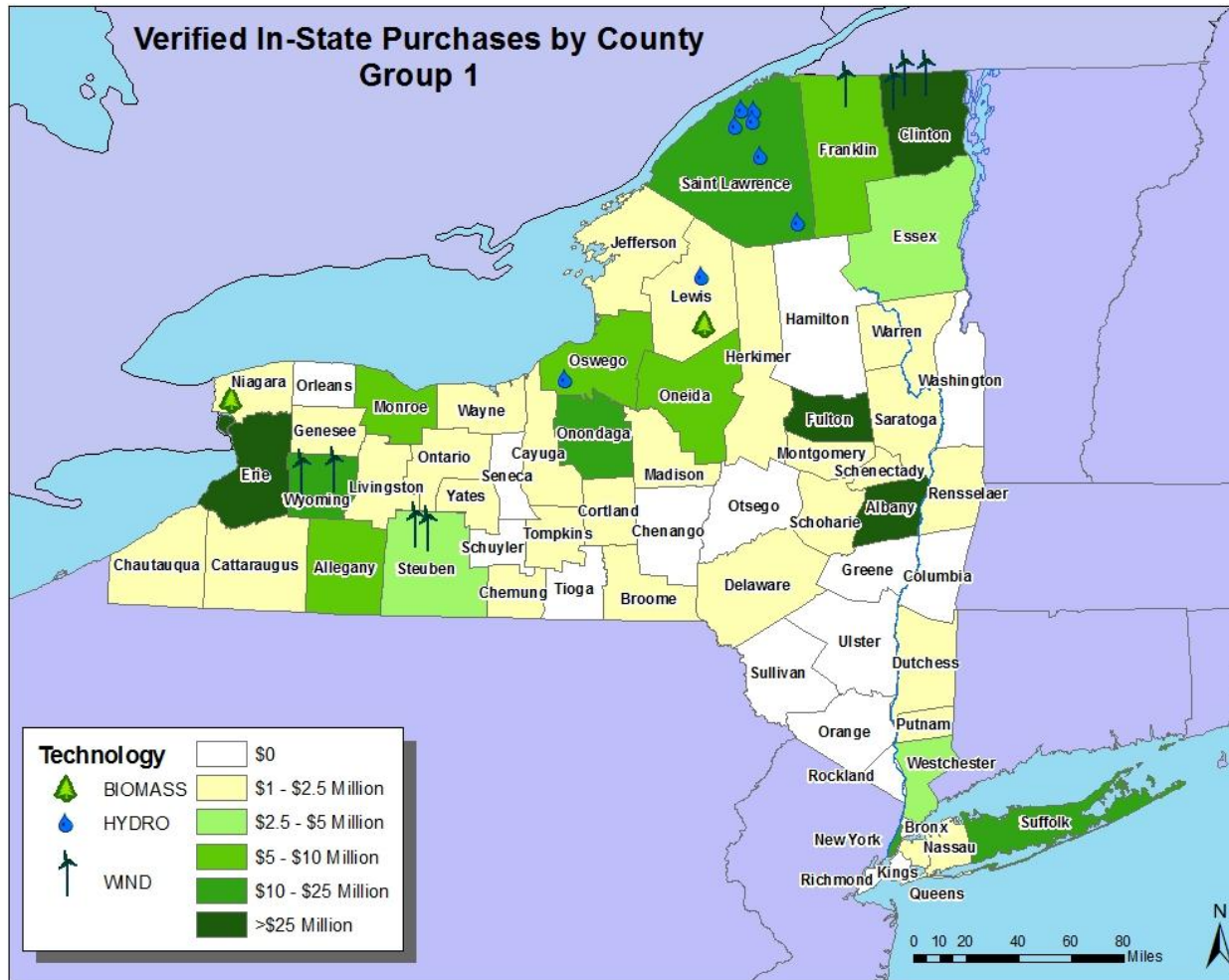


Volume 2, Figure 4.

Verification Process



Verified In-State Purchases by County



Direct Investments Report, Figure 1.

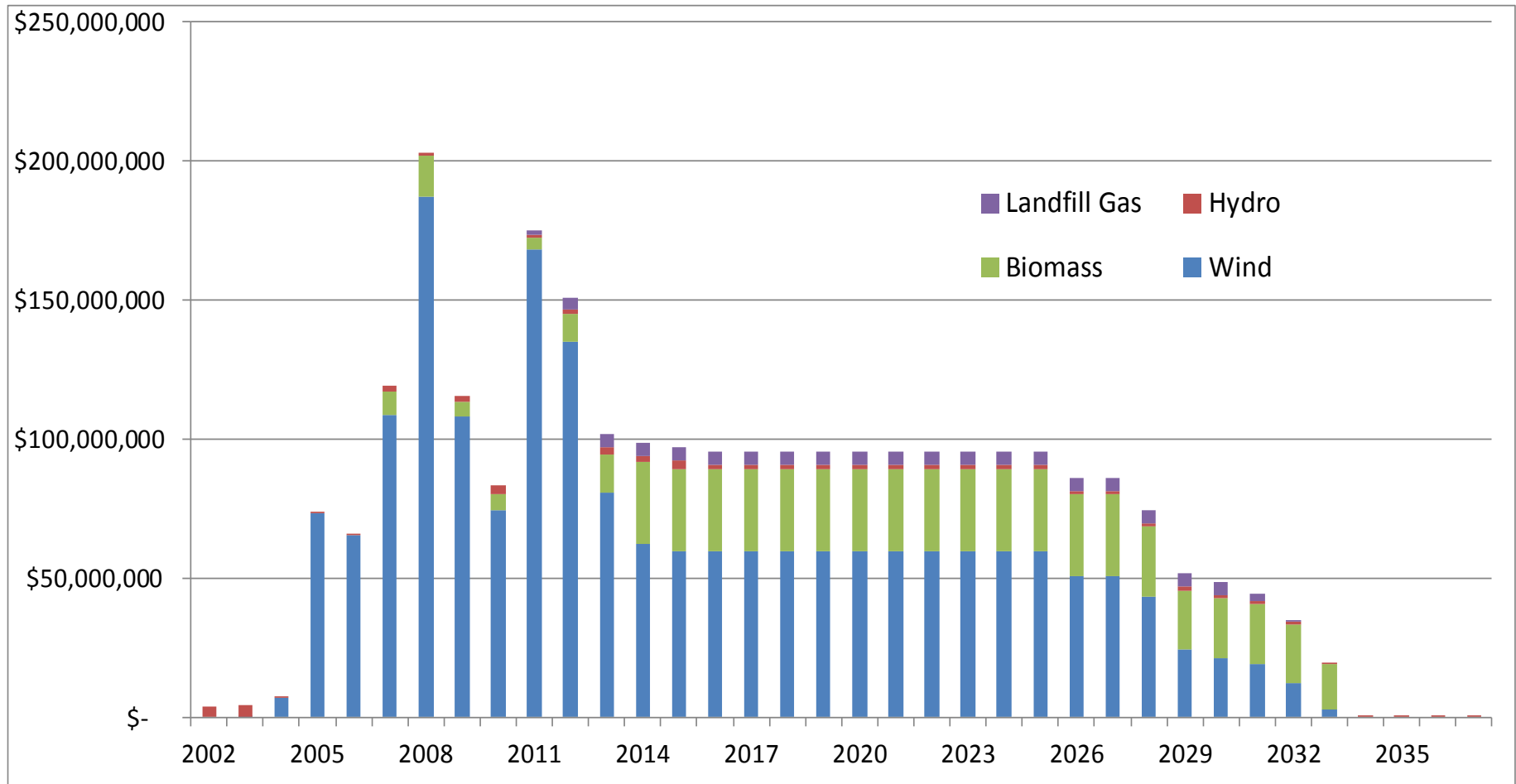
Direct Investments Summary

- \$27 in direct investments would be produced as a result of project expenditures in New York for every 1 MWh of renewable energy that would be generated.
- Committing nearly \$877 million leads to approximately \$2.7 billion of direct investments in New York over projected facility life
- Every \$1 of State RPS funding invested catalyzes \$3 in direct investment in New York

Note: This is direct investment that remains in New York. It does not reflect the cost of the equipment sourced from outside New York

	Investment (millions \$)	\$/MWh
Wind	1,951	24
Hydroelectric	51	11
Biomass	603	59
Landfill Gas	95	18
Total	2,699	27

Direct Investments by Year and Technology

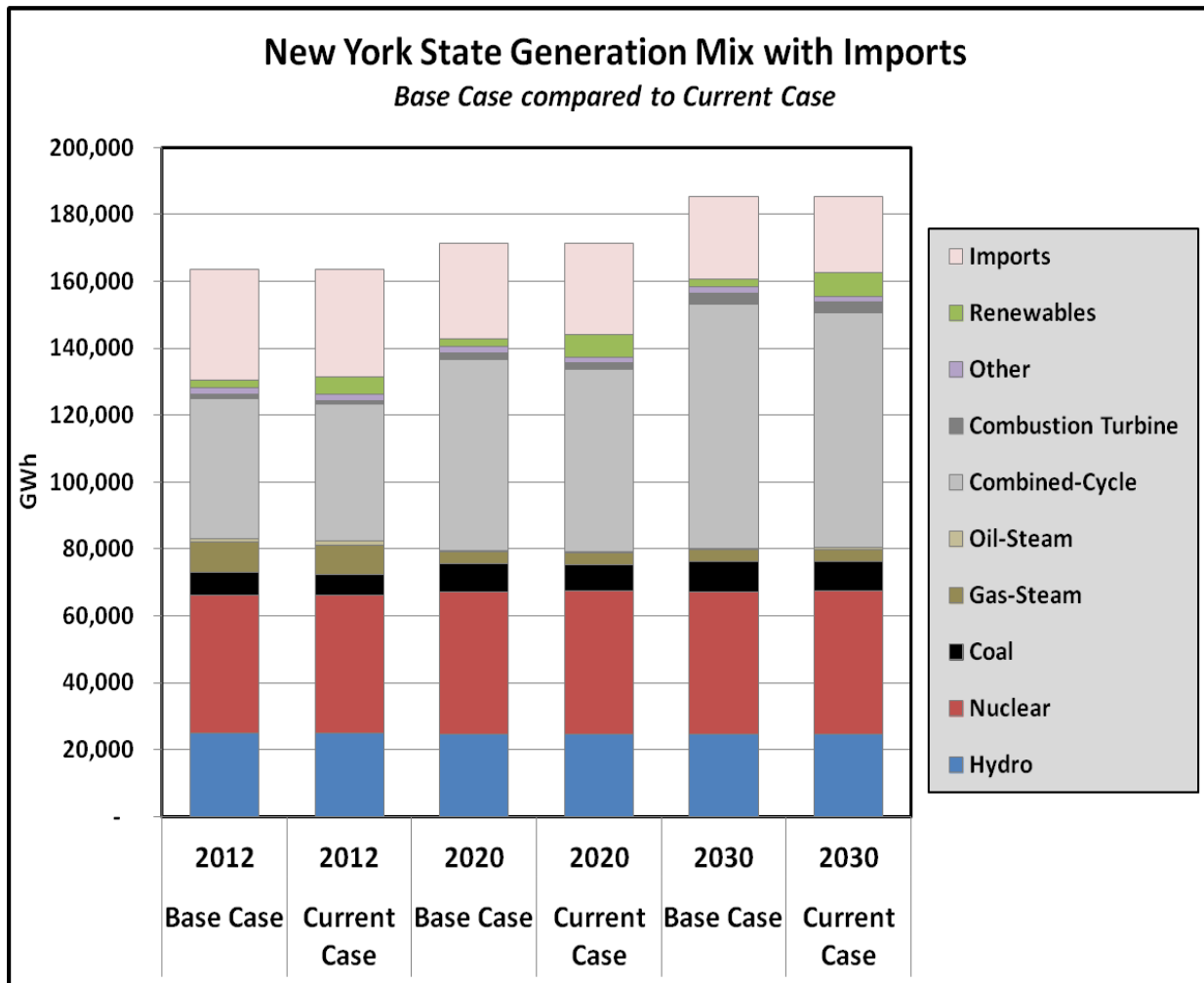


Volume 2, Figure 7.

Electric System Impacts

- New renewable energy generation primarily displaces generation from natural gas resources and imported electricity
 - 320 MW of natural gas combined-cycle capacity additions are displaced, leading to reduced investments in New York
 - Net electricity imports are expected to decline by approximately 4.7%, or an average of 1.17 million MWh per year, stimulating in-state economic activity
- On average wholesale electricity prices are less than 1% lower, which benefits ratepayers

Electric System Impacts



Volume 2, Figure 9.

Environmental Impacts

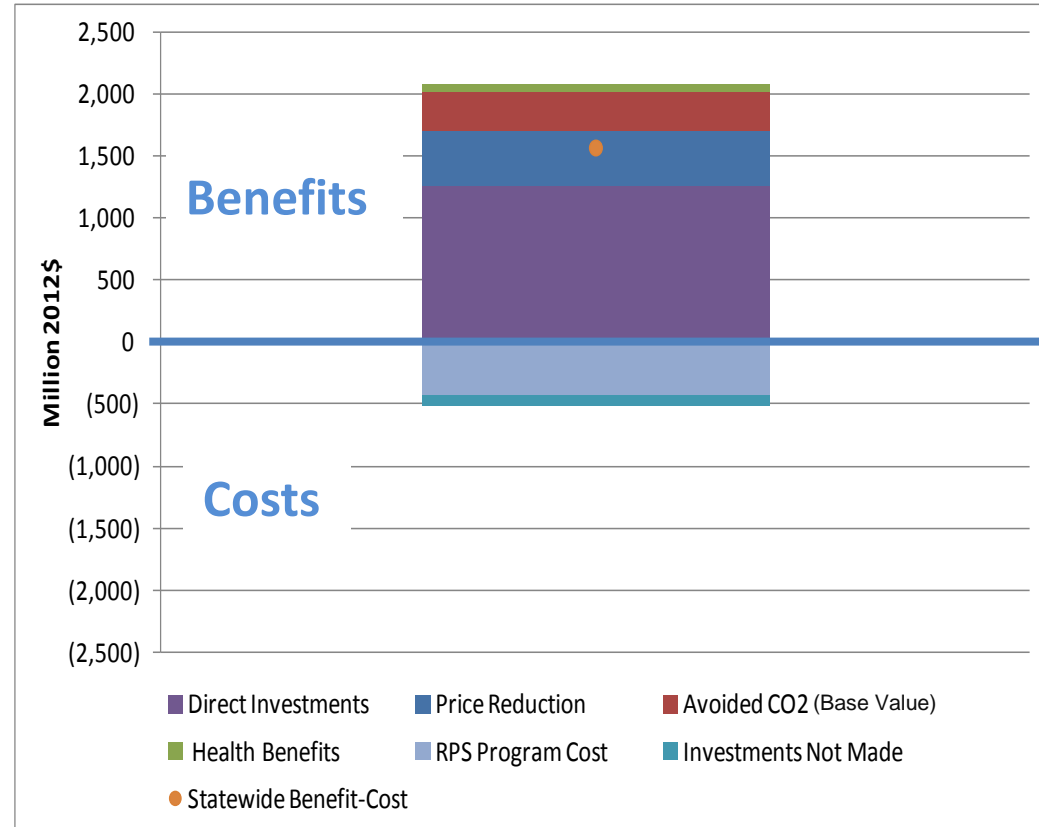
- Fossil fuel usage is reduced by 1% or approximately 130 trillion Btus
- CO₂ emissions are reduced by more than 50 million tons
 - Corresponds to 2.6 million tons per year during 2014-2025 peak RPS generation period, equivalent to removing 510,000 cars from the road
- 15 million tons each of NO_x and SO₂ emissions reductions are also expected

Benefits and Costs

- Program costs comprise less than 0.2% of total retail electricity expenditures
- Taking into account wholesale electricity price reductions, cumulative net rate impact is essentially zero
- Monetized emission reductions total \$312 million under base CO₂ value (\$15/ton) and \$2.2 billion under high CO₂ value (\$85/ton)

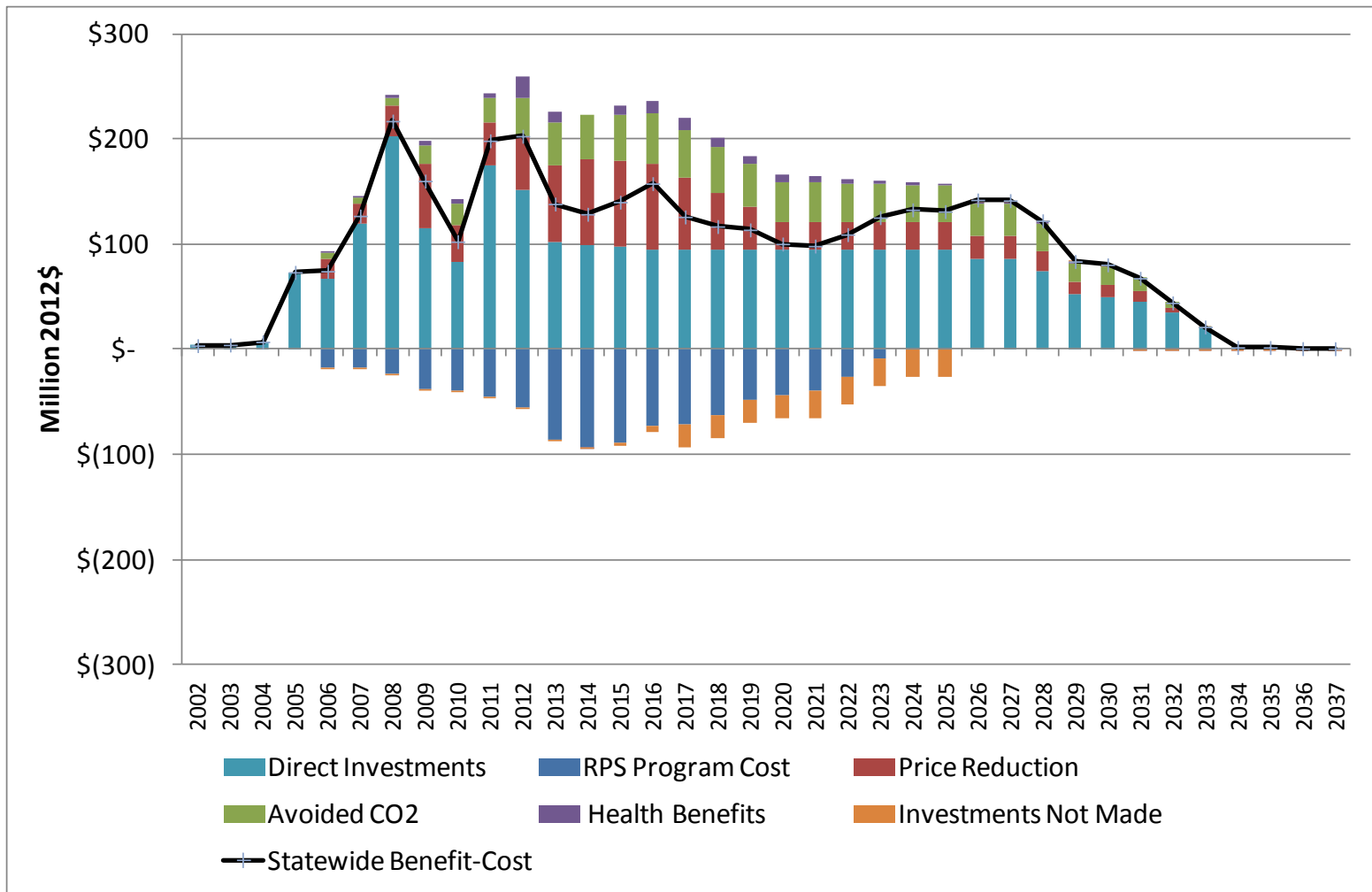
Benefits and Costs

- Under base CO₂ value assumption shows \$1.6 billion in net benefits
 - **Benefit-to-Cost ratio: 5-to-1**
- Under high CO₂ value assumption shows \$3.5 billion in net benefits
 - **Benefit-to-Cost ratio: 9-to-1**



Volume 2, Figure 12. Net Present Value of Benefit-Cost Components

Benefits and Costs

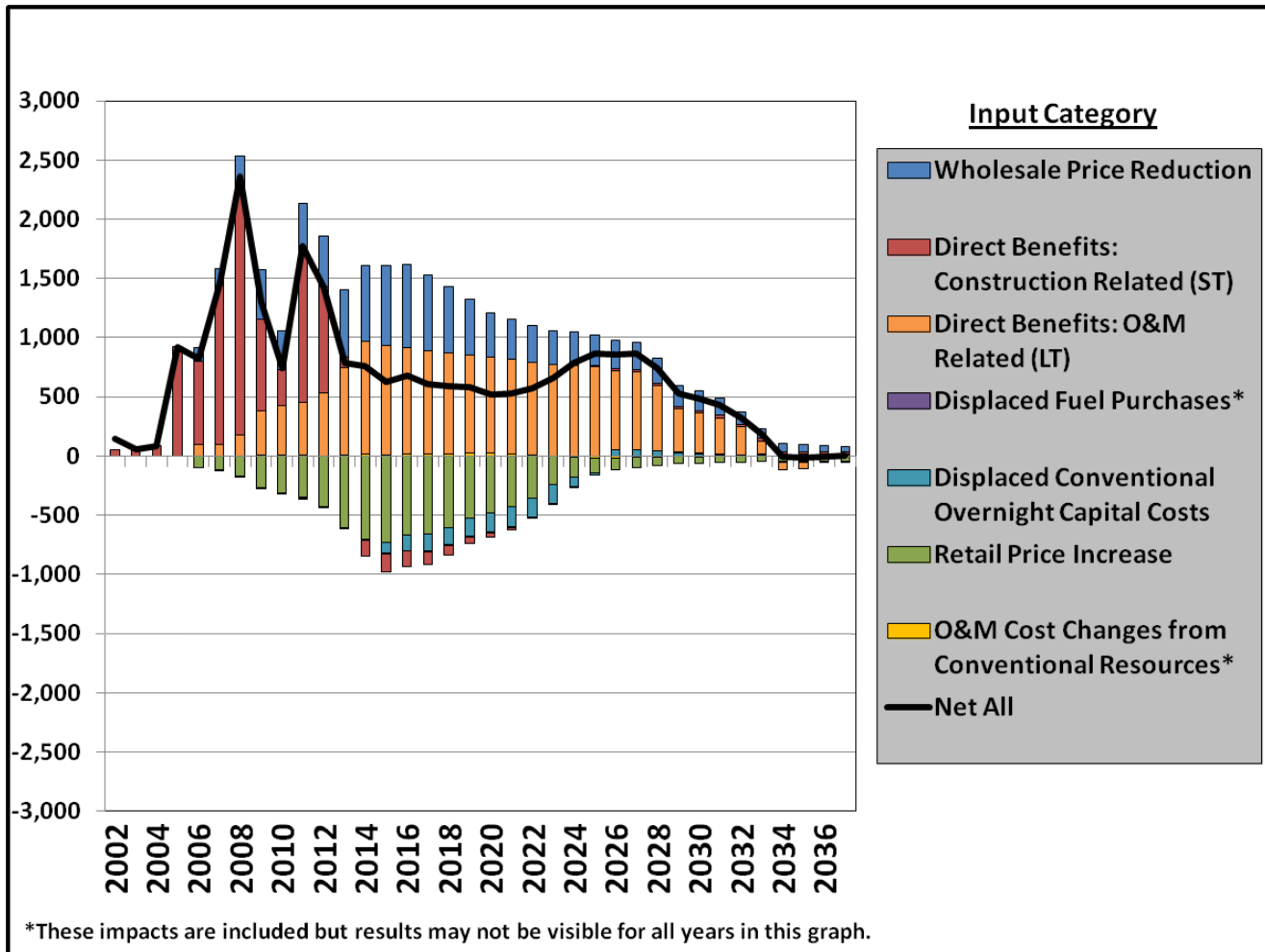


Volume 2, Figure 13. Benefit-Cost Components

Macroeconomic Impacts

- Primary drivers of positive impacts:
 - Private investments
 - Tax and fee payments
 - Land use payments
 - Net increase in generation sales by in-State generation resources
 - Wholesale electricity price reduction
- Net gain of approximately 670 jobs in the New York economy
- \$2 billion cumulative net growth in gross state product, taking into account all stimulative and depressive factors
 - Over \$1 billion from increased in-State generation

Macroeconomic Impacts



Volume 2, Figure 14. Net Employment Impacts

New York State Renewable Portfolio Standard 2013 Main Tier Program Review *Questions?*

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December 13, 2013

Thank you for attending our webinar

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<http://www.cleanenergystates.org/projects/state-federal-rps-collaborative/>

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