

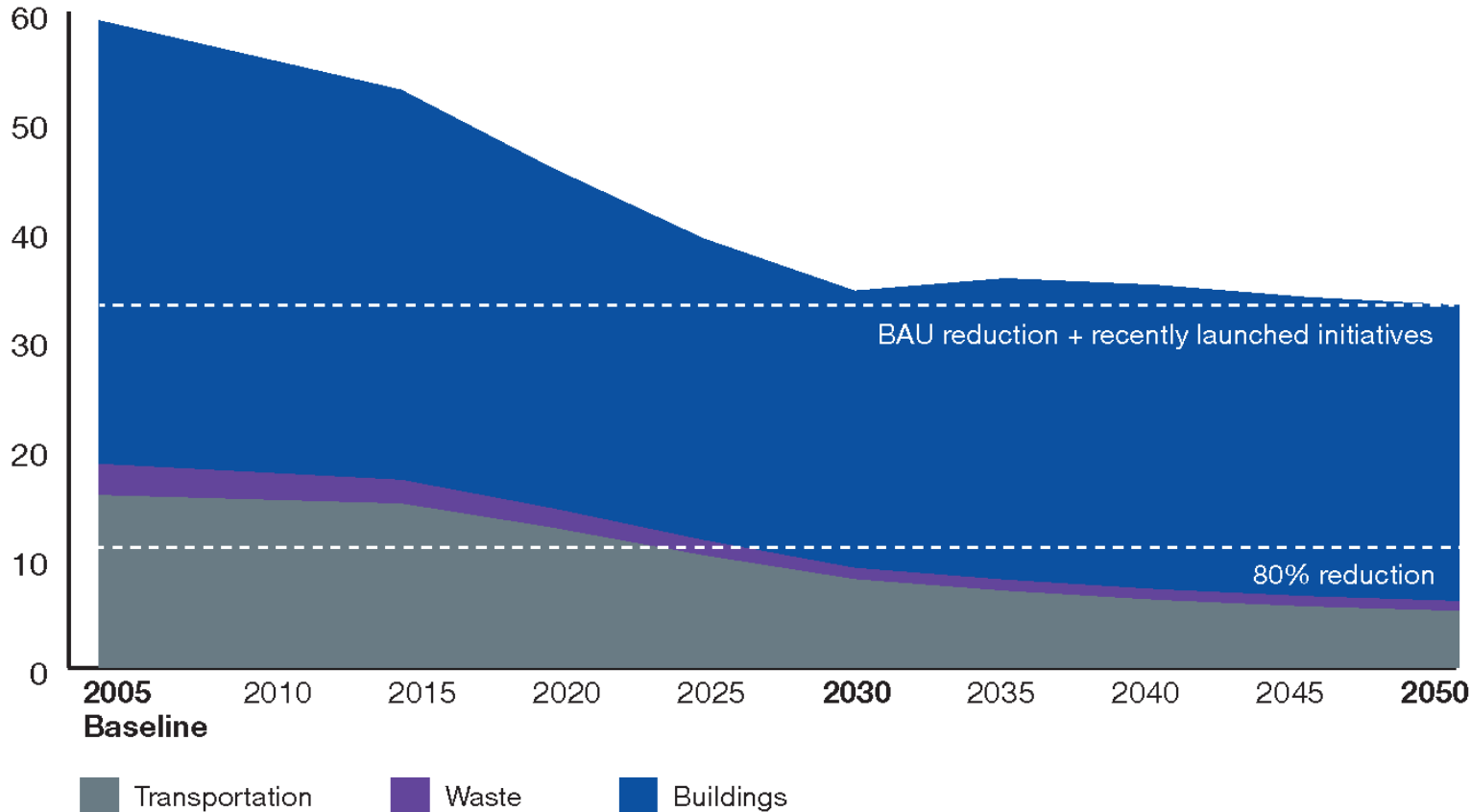
# TRANSMISSION PROJECTS DRIVEN BY PUBLIC POLICY REQUIREMENTS



City of New York  
October 25, 2016

# NYC'S ROADMAP TO 80X50: WE CAN BEND THE GHG CURVE WITH THE RIGHT ACTIONS AND INVESTMENTS

BAU Reduction & Recently Launched Initiatives (MtCO<sub>2</sub>e)



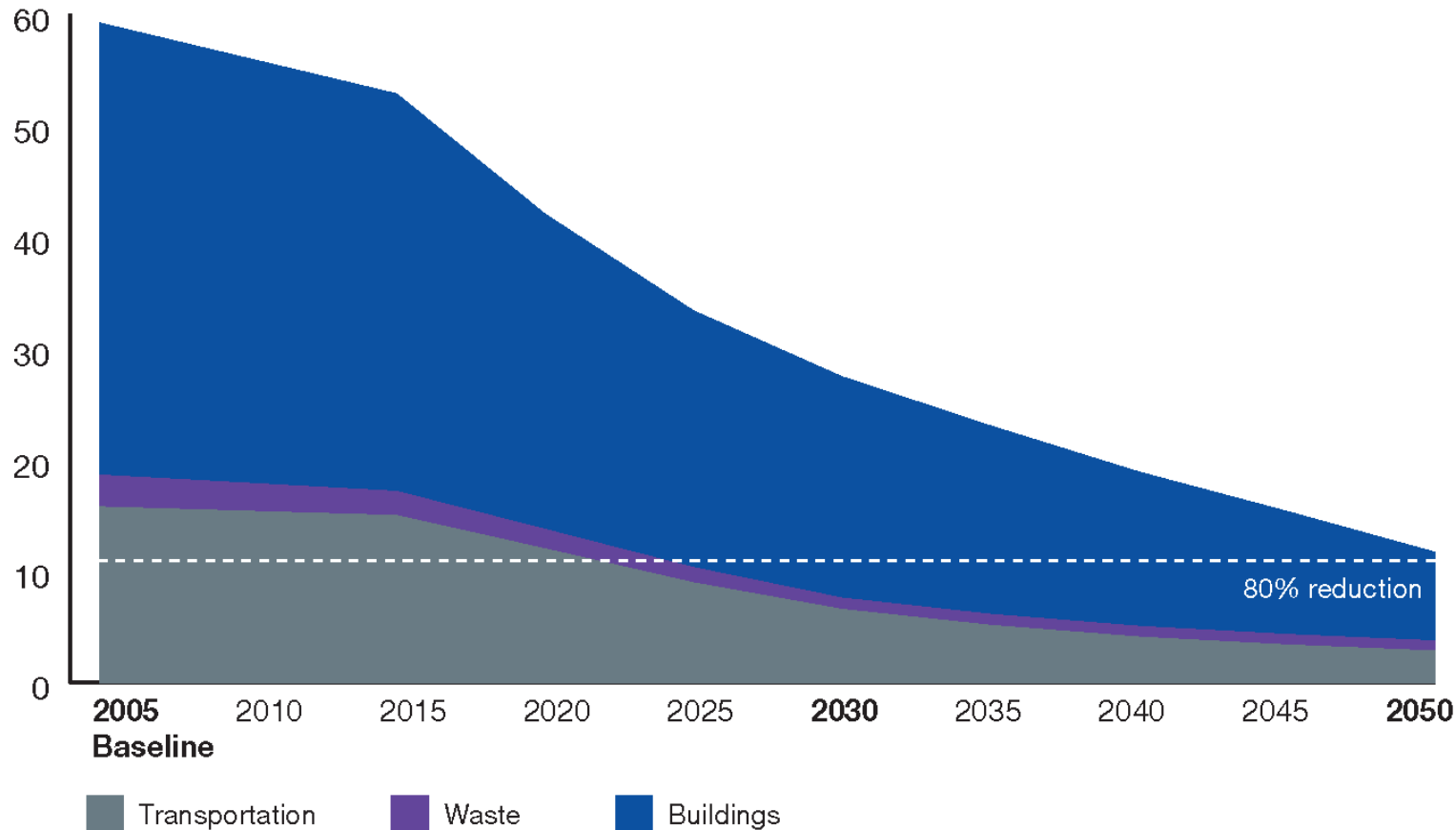
**New City initiatives since 2014 have now put us on track for a 40% reduction by 2030**

- One City: Built to Last
- Zero Waste
- NYC Clean Fleet
- DEP: Net Zero Energy Wastewater Treatment Plants
- DOT: Strategic Plan

\*GHG emissions from electricity production (Energy) is included in Buildings and Transportation

# NYC'S ROADMAP TO 80X50: WE CAN BEND THE GHG CURVE WITH THE RIGHT ACTIONS AND INVESTMENTS

80 x 50 Roadmap (MtCO<sub>2</sub>e)



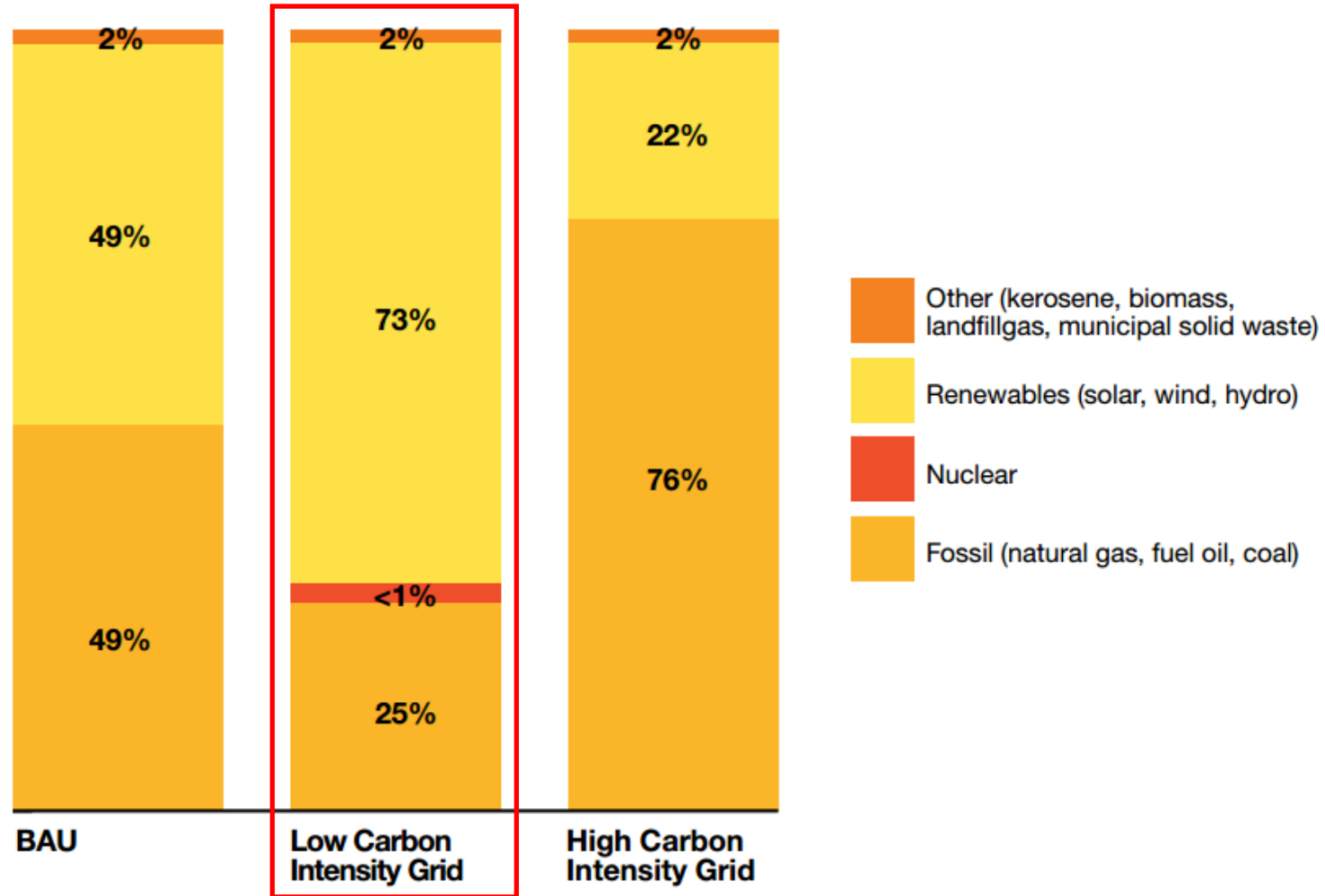
**More work will be needed to achieve 80% by 2050**

- Low carbon grid: new renewables are likely more economic than natural gas generation
- Deep energy building retrofits
- Building heating and hot water electrification
- Distributed solar PV: 7 GW
- District heating and cooling networks
- Zero Waste fully achieved
- Mode shift from vehicles
- Transportation and freight network efficiency

\*GHG emissions from electricity production (Energy) is included in Buildings and Transportation

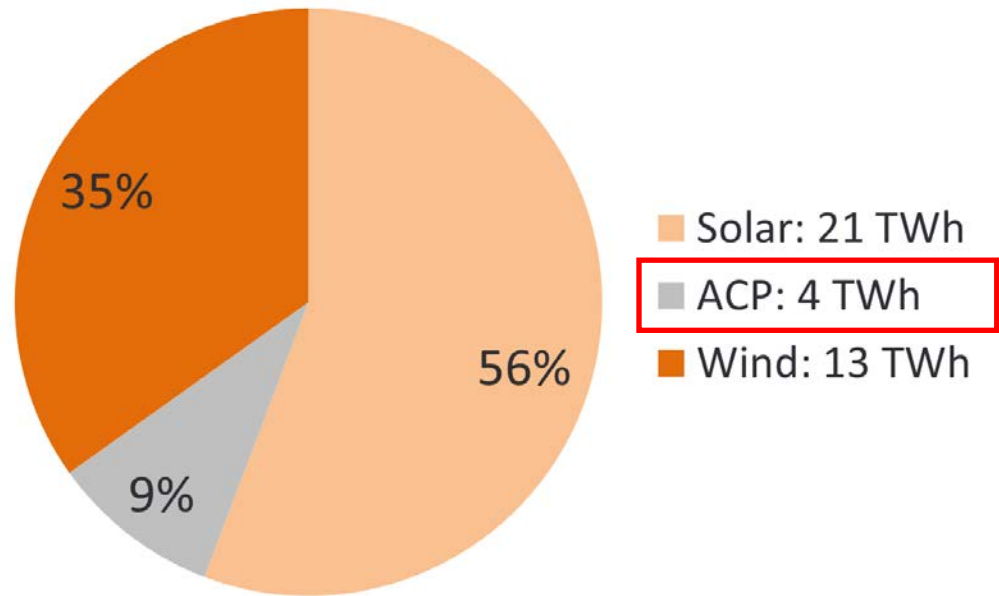
# NYC'S ENERGY SUPPLY WILL DEPEND INCREASINGLY ON RENEWABLE ENERGY SOURCES

2050 Electric Grid Fuel Mix by Scenario



# MODELING SUGGESTS NYS MAY NOT MEET THE CES WITH DELIVERABLE RENEWABLES

## NYS CES Tier 1 Compliance – 2030



# TRANSMISSION PLANNING RECOMMENDATIONS

- Northern New York
  - Expand transmission system to provide greater downstate access to upstate and Canadian renewable resources
- Holistic Approach for Achievement of Public Policies
  - Examine and assess total system needs for facilitating development of renewable resources and transmitting renewable power to load centers

## NORTHERN NEW YORK PROPOSAL

- The transmission system in the northern part of the State contains bottlenecks that prevent full utilization of the State's renewable generation potential and inhibit access to Canadian renewable resources
- This proposal is supported by numerous studies:
  - "Wind Integration Study: Study Results and Final Report," dated June 18, 2010
  - "Growing Wind Final Report of the NYISO 2010 Wind Generation Study", dated September 2010
  - "New York State Energy Highway Blueprint," issued October 2012
  - "New York State Energy Highway Blueprint Update," issued April 2013

# NORTHERN NEW YORK PROPOSAL

## Criteria to be applied:

- Measure the extent to which the project allows downstate load centers to access the renewable resources in northern New York
- Examine the costs and benefits of the project as compared to other options to provide a similar amount of renewable capacity to downstate load centers



## HOLISTIC ASSESSMENT PROPOSAL

- New York's largest load center is New York City, with a peak load of more than 11,500 MW
- New York City has limited domestic potential for renewable resource development
- Options include:
  - Upstate wind and solar
  - Offshore wind
  - Canadian hydro and wind
- The transmission system, inclusive of the TOTS and AC Transmission projects, is inadequate to fully implement these options

## HOLISTIC ASSESSMENT PROPOSAL

- Comprehensive planning and solutions are needed
  - Requires expansion of both the upstate-downstate and in-City transmission systems
- The State Energy Plan supports this approach, in that it calls for:
  - 40% reduction of greenhouse gas emissions by 2030, as compared to 1990 levels
  - reliance on renewable resources for 50% of the State's electric generation by 2030
- Voltage levels for transmission lines should be increased
- Unnecessary restrictions (e.g., prohibiting river crossings) should be avoided

# HOLISTIC ASSESSMENT PROPOSAL

## Criteria to be applied:

- Measure the extent to which a project allows downstate load centers to access renewable resources located in other parts of the State and in other regions
- Examine the costs and benefits of a project as compared to other options to provide a similar amount of renewable capacity to downstate load centers
- Assess whether and how a project contributes to achievement of the State's public policy goals as set forth in the State Energy Plan, the CES, and the NAAQS-related State Implementation Plans

## CONTACT

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