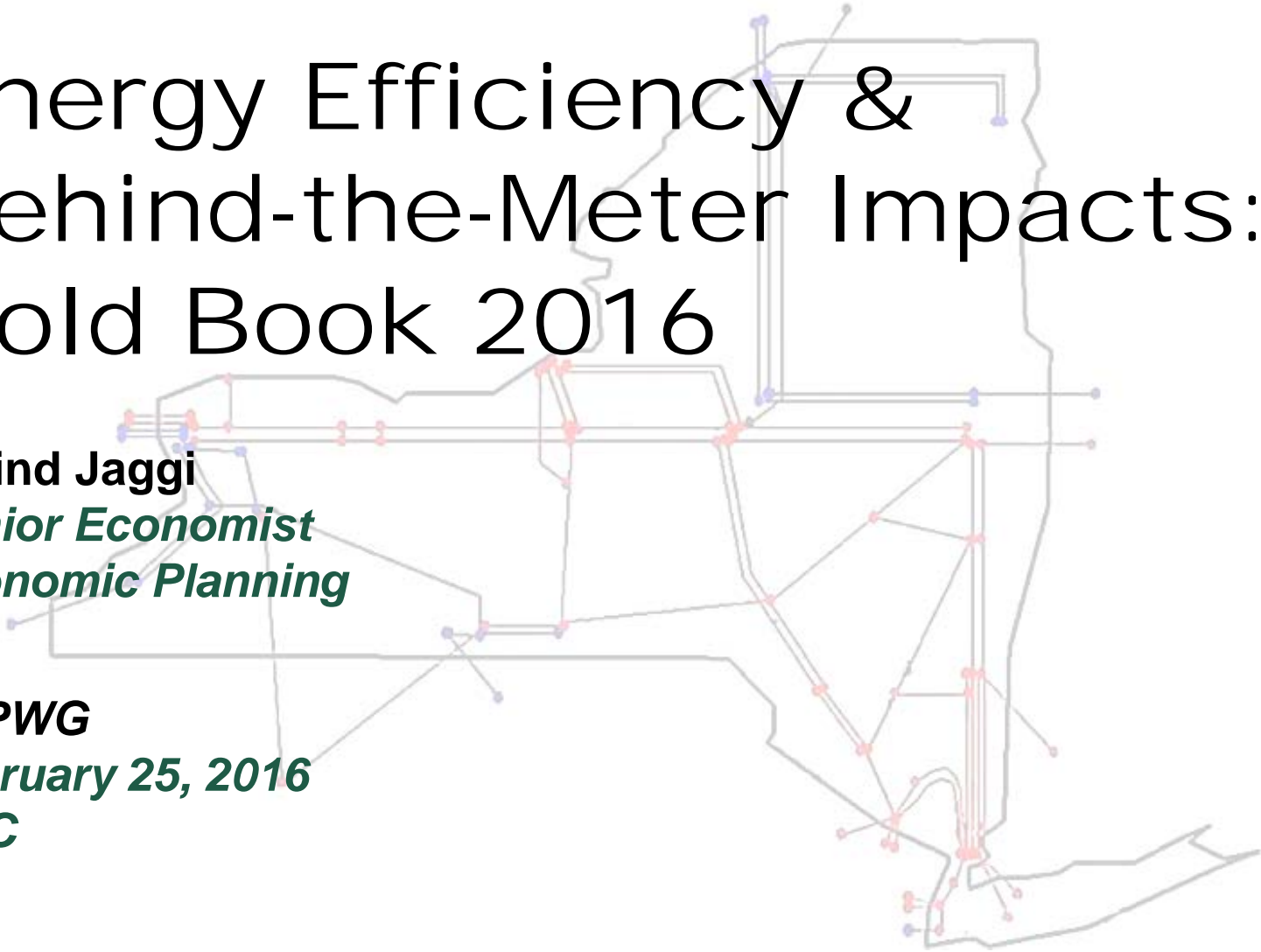


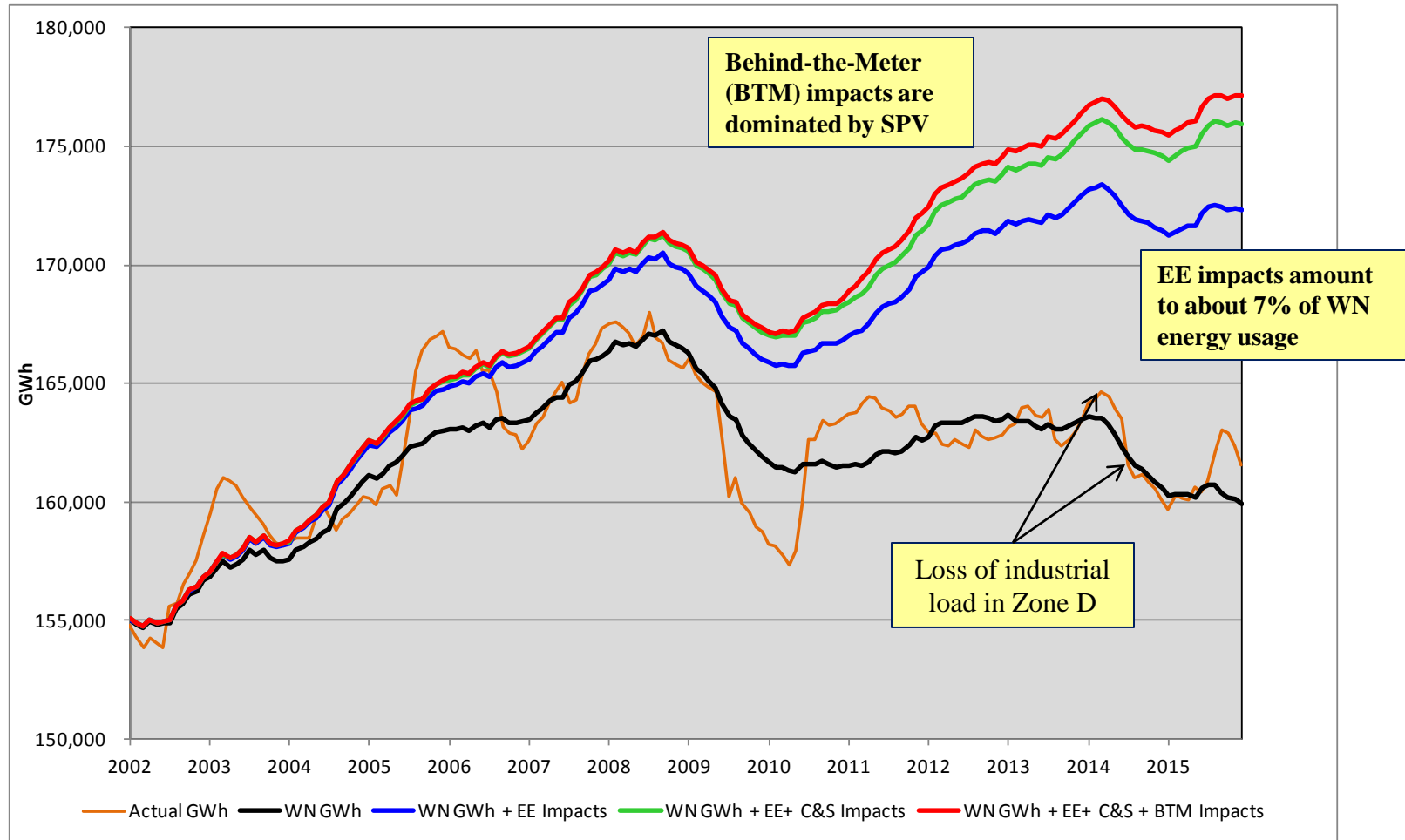
Energy Efficiency & Behind-the-Meter Impacts: Gold Book 2016

Arvind Jaggi
Senior Economist
Economic Planning

ESPWG
February 25, 2016
KCC

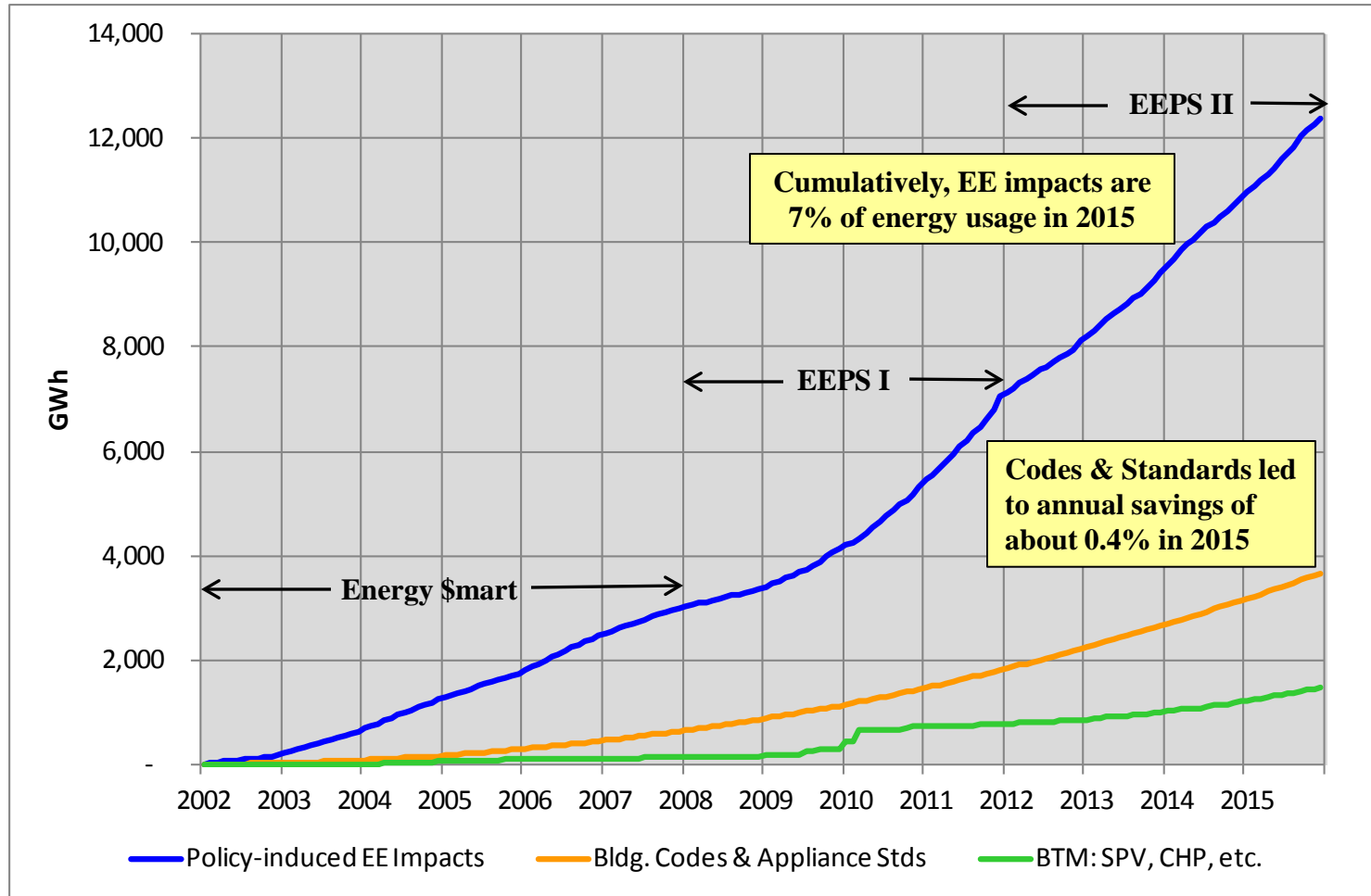


NYCA Energy Usage and Savings: 2002-15



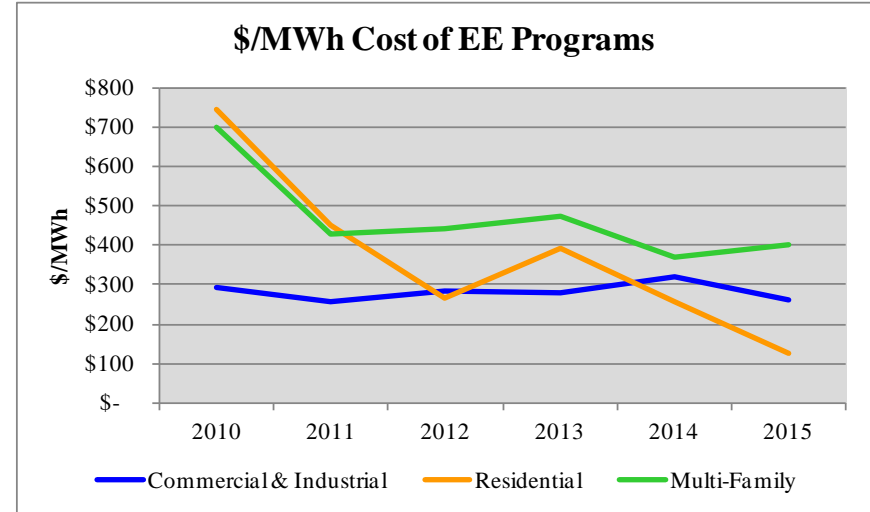
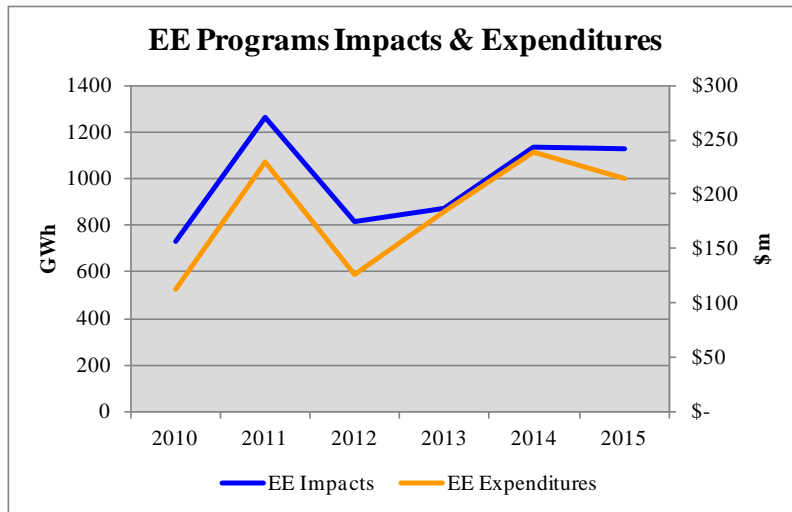
EE Impacts include NY Energy \$mart, EEPS, NYPA, and LIPA/PSEG programs; Codes & Standards impacts imputed based on analysis of multiple studies; BTM includes Solar PV, CHP, ADG, etc.

History of Energy Savings Impacts



EE Impacts include NY Energy \$mart, EEPS, NYPA, and LIPA/PSEG programs; Codes & Standards impacts imputed based on analysis of multiple studies; BTM includes Solar PV, CHP, ADG, etc.

EE Programs: NYSERDA EEPS & Utilities



The underlying figures exclude NYSERDA's Point-of-Sale Lighting Program as well as NYPA and LIPA/PSEG. NYSERDA and utilities data was projected for Q4 2015 as published data is available only through Q3 2015.

- ***Incentives provided through NYSERDA and individual utilities are the driver of the energy-saving impacts in these programs.***
- ***While overall program costs have remained relatively stable over the past 5 years, there are considerable disparities in per-MWh costs across categories and across utilities.***
- ***Unexpended funds have been carried over to Clean Energy Fund programs***

Proposed Energy Saving Programs: 2016-2025

- ◆ Energy Efficiency related programs
 - *Individual utility Energy Efficiency Transition Implementation Plans (ETIPs)*
 - *NYSERDA's 2016-18 Transition Plan*
 - *Clean Energy Fund's 10-year Market Transformation Portfolio (2016-2025)*

- ◆ NY-Sun
 - *2025 target of around 3,200 MW of BTM SPV*

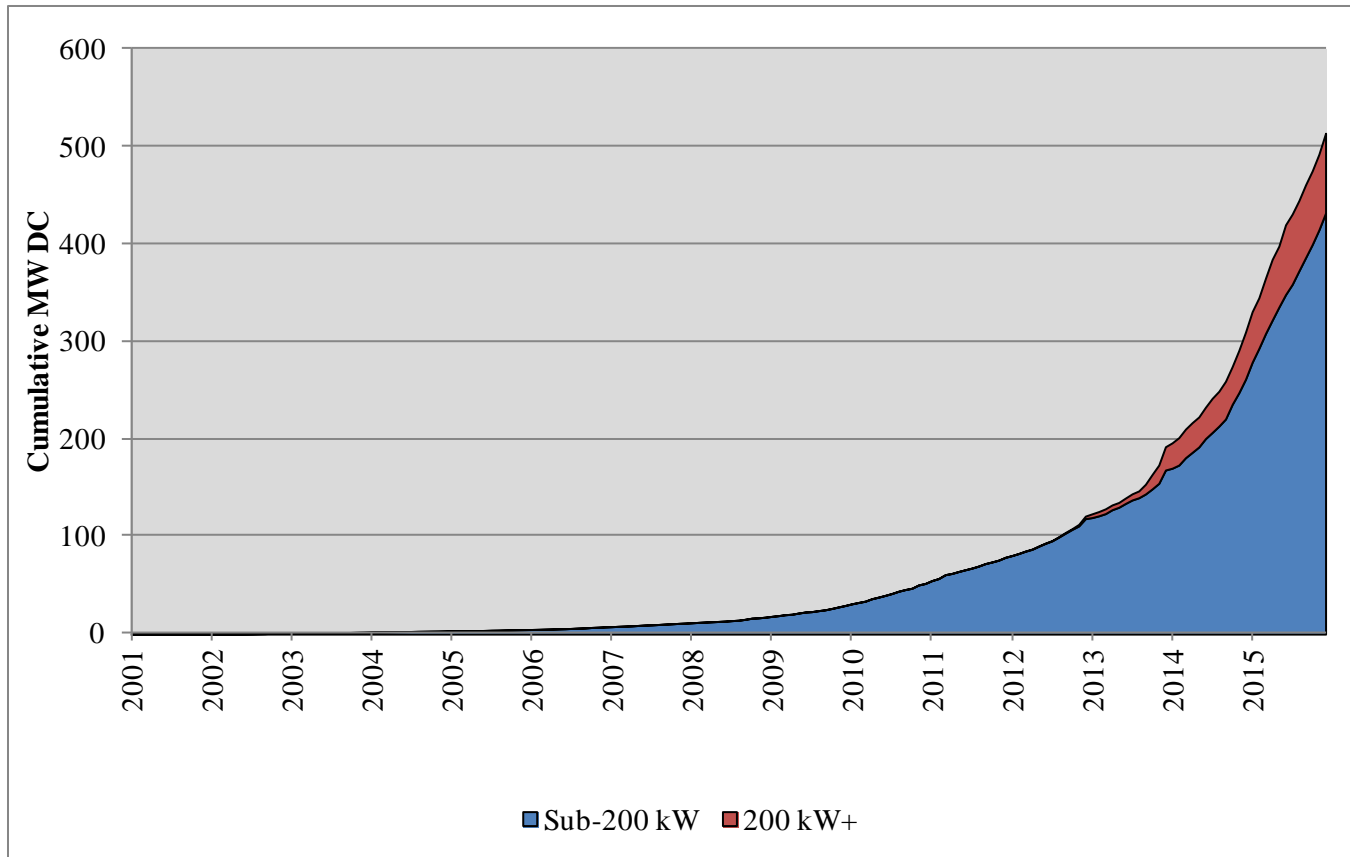
- ◆ Other Behind-the-Meter Generation
 - *CEF's Onsite Generation projects (CHP, ADG, etc.)*

Future Energy Efficiency Program Plans

	Period	GWh Goal	Budget (\$ m)
ETIP	2016-18	1,848	\$ 582
Transition Plan	2016-18	872	\$ 428
CEF Market Transformation Portfolio	2016-25	7,792	\$ 1,966

- ***Per - MWh costs are comparable to historic levels seen under EEPS.***
- ***CEF program impacts are not driven by incentive payments and are projected to the result of changed energy-usage behavior on the part of residential, commercial, and industrial customers.***
- ***Projected impacts are assumed to have a geographical distribution similar to the historic patterns revealed in previous policy-based EE programs.***

NYCA BTM SPV Capacity



Annual Installations

2012: 42 MW

2013: 71 MW

2014: 118 MW

2015: 204 MW

NY-Sun Goals

(All figures in MW)

	Sub-200 kW Systems		200 kW+ Systems	Total
	Residential	Small Commercial	C & I*	
Long Island	122	54	0	176
Con Ed Territory	302	303	340	945
Rest of State	444	451	1272	2167
Total	868	808	1612	3288

* These figures reflect an allowance of 20% of attrition on expected applications.

There are significant regional differences in the typical sizes of the sub-200 kW systems being installed, the growth rates of installed capacity, and the mode of acquisition (purchase vs. lease vs. PPA).

The C&I Program (200 kW+) has been relatively sluggish – mainly due to the 8-10 month gestation lags between when applications are received and when systems come into service.

The zonal forecasts will be developed using county-based adoption models.

The New York Independent System Operator (NYISO) is a not-for-profit corporation responsible for operating the state's bulk electricity grid, administering New York's competitive wholesale electricity markets, conducting comprehensive long-term planning for the state's electric power system, and advancing the technological infrastructure of the electric system serving the Empire State.



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