New England Clean Energy Transmission Summit

John G. Kassakian
The Massachusetts Institute of Technology

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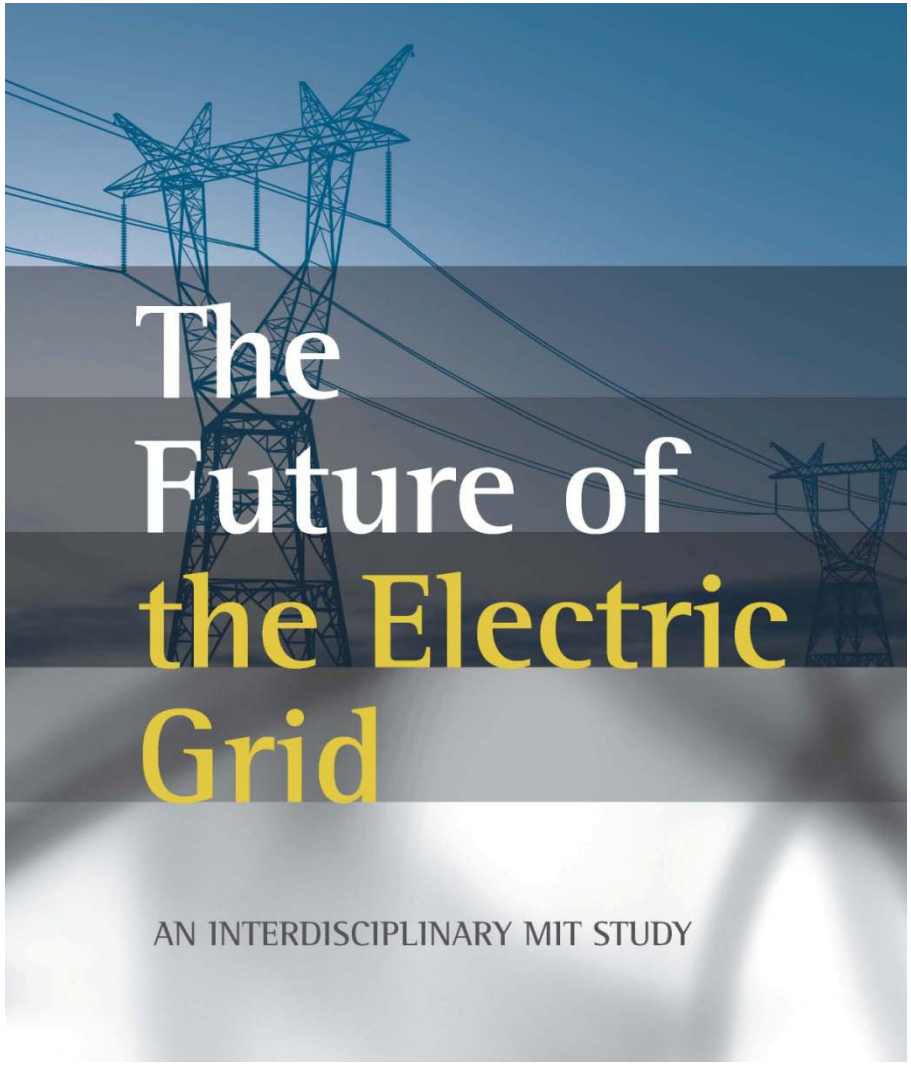
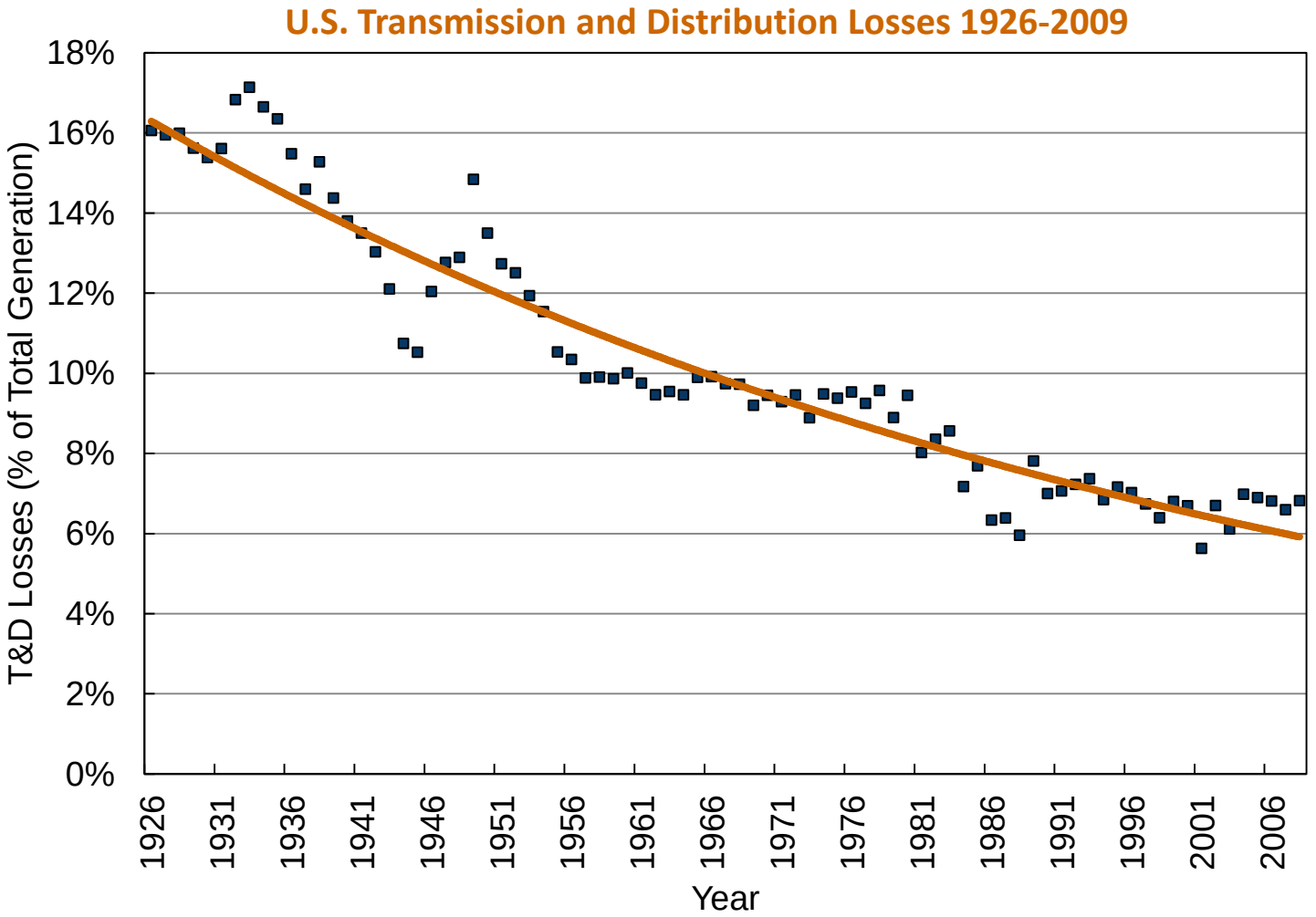


National Press Club, December 5, 2011

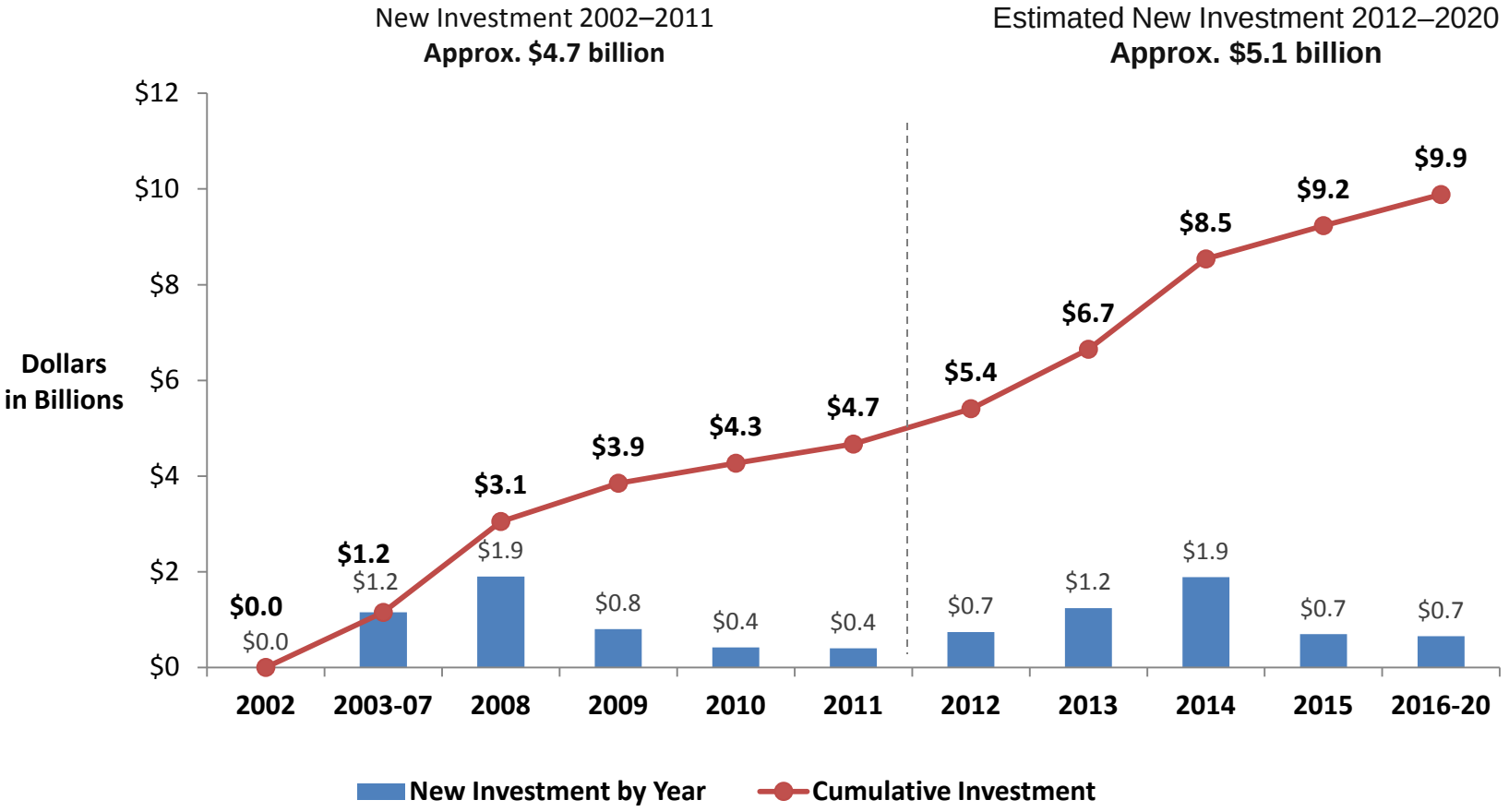
Available at: http://web.mit.edu/mitei/research/studies/the-electric-grid-2011.shtml

The U.S. Grid Performs Well ***Today***



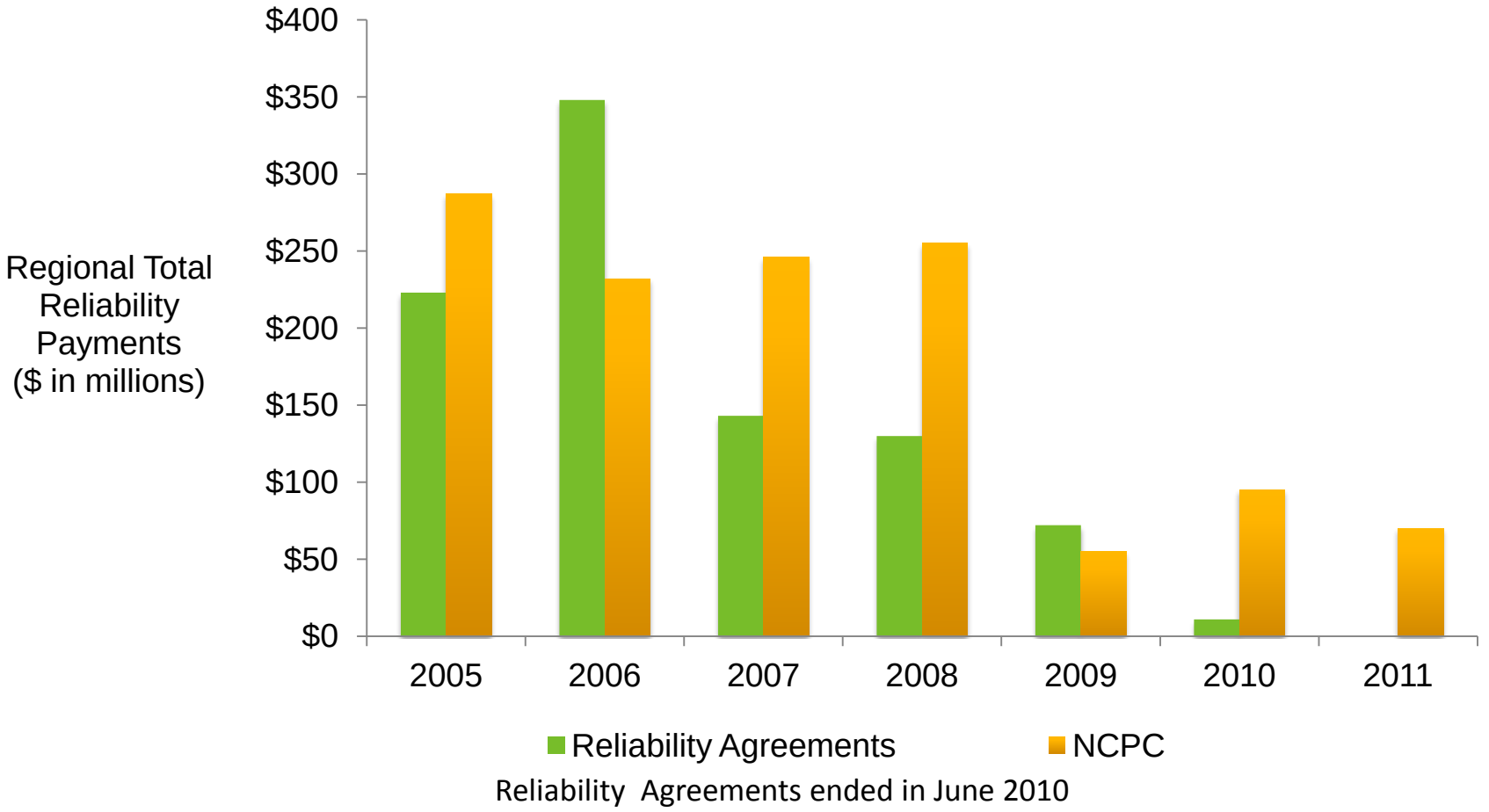
Source: Data for all years prior to 1943 were reported by the Edison Electric Institute. Losses for the years 1943 to 1951 were calculated using Edison Electric Institute data on generation, net imports, company use, producer use, and sales to customers. Company and producer use data were not reported during this time period, so the average of these quantities from 1941 and 1942 was used. Data for all years from 1951 to the present are from the U.S. Energy Information Administration Annual Energy Reviews.

Transmission Investment in New England



Source: ISO New England Transmission Project List, through November 2011 Update.

Payments to Maintain Reliability



Source: ISO New England Transmission Project List, through November 2011 Update.

2030 Will Be A Very Different Environment !

- New technologies with great potential
- More grid-scale wind and solar generation
- Plug-in hybrid & pure electric vehicles
- Increased deployment of distributed generation
- Increased connectivity → cybersecurity and information privacy concerns

Integration of Terrestrial Wind and Solar Requires New Transmission

- Resources are remote from load centers
- Transmission for off-shore wind not a big problem
- New England has abundance of both terrestrial and off-shore wind resources

Transmission Siting Must Be Reformed

- States and federal agencies can and do block siting of transmission lines.
- No agency asked to consider broad national interests.

RECOMMENDATION:

New legislation should grant FERC enhanced siting authority for major transmission facilities that cross state boundaries or federal lands.

Planning and Cost Allocation Are Being Revised

- FERC Order No. 1000 (7/11): a step in the right direction.
- But parties should go further:
  - Planning and cost allocation procedures should be interconnection-wide.
  - Available data and planning methods cannot handle interconnection-level planning under uncertainty.

RECOMMENDATION:

FERC should require that detailed data on the U.S. bulk power system be compiled and made appropriately available.

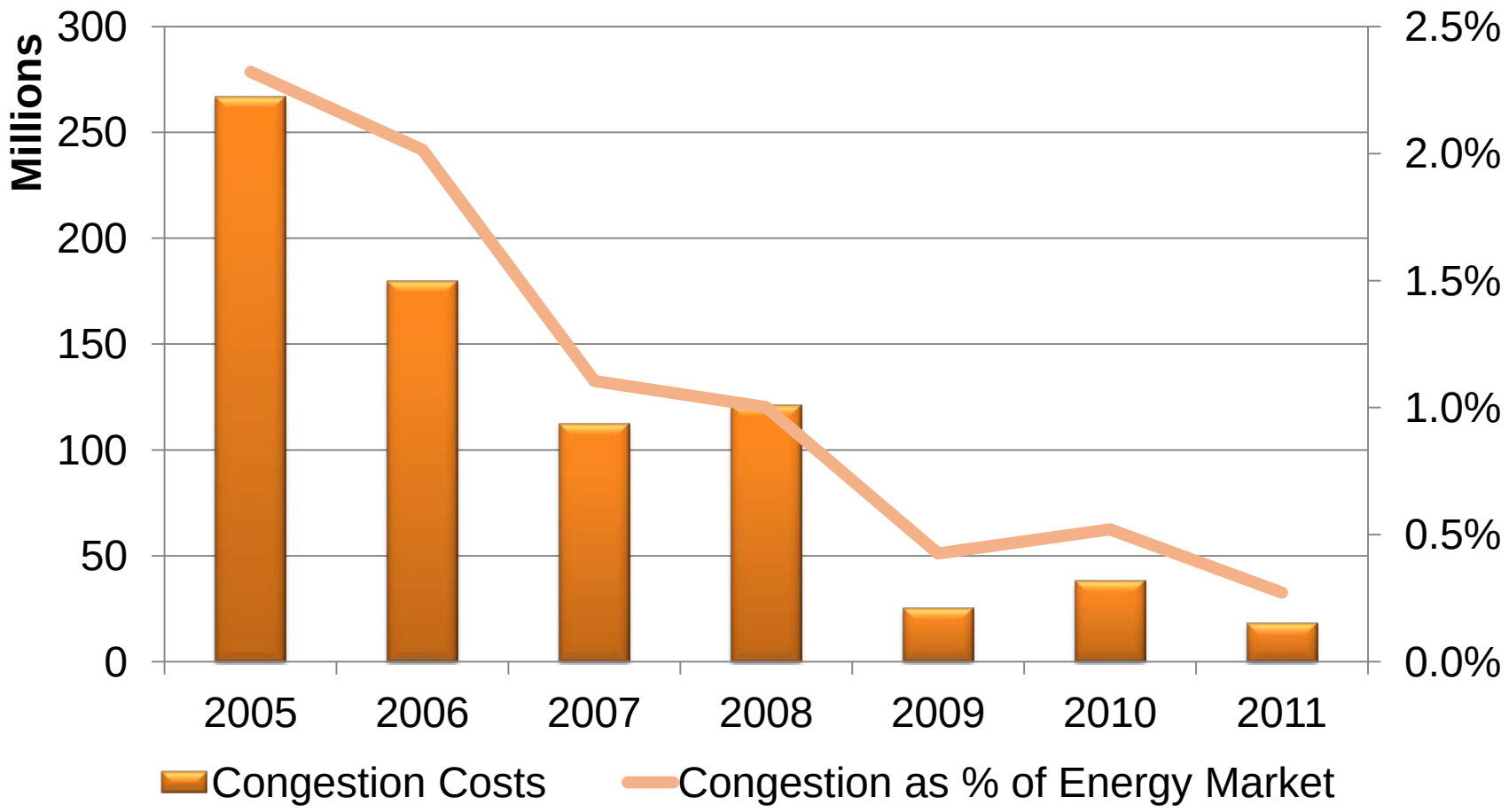
But New Transmission For Renewables Will Not:

- Reduce congestion

or

- Increase reliability

Congestion Costs



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