

# Summary of Eversource materials

- Eversource premise is based on incomplete data
  - Eversource claims that solar drives up net costs for residents and businesses
  - However, at no time do they include the benefits of solar to MA overall, including to people who do not have solar themselves
  - In fact, **the benefits of solar to MA electric users overall have been shown to be ~2.5X the costs** (2.2X-2.7X in findings of the Net Metering Task Force)
- The data and analysis are inaccurate
  - Eversource claims about incentive costs for solar use SREC 1 incentive costs, which ended many months ago, not actual incentives available for a solar project happening today (SREC 2)
  - Claim that other states are NOT as successful as MA in deploying solar are fundamentally inaccurate: MA deployed 400%-3000% more solar in 2014 than PA, CT, and MD
  - Net metering and other cost estimates inaccurate: Analysis Group report shows utility analysis of net metering and other solar costs inaccurate and biased to make solar look expensive
- Therefore, the attempted conclusions about energy costs and impacts are wrong

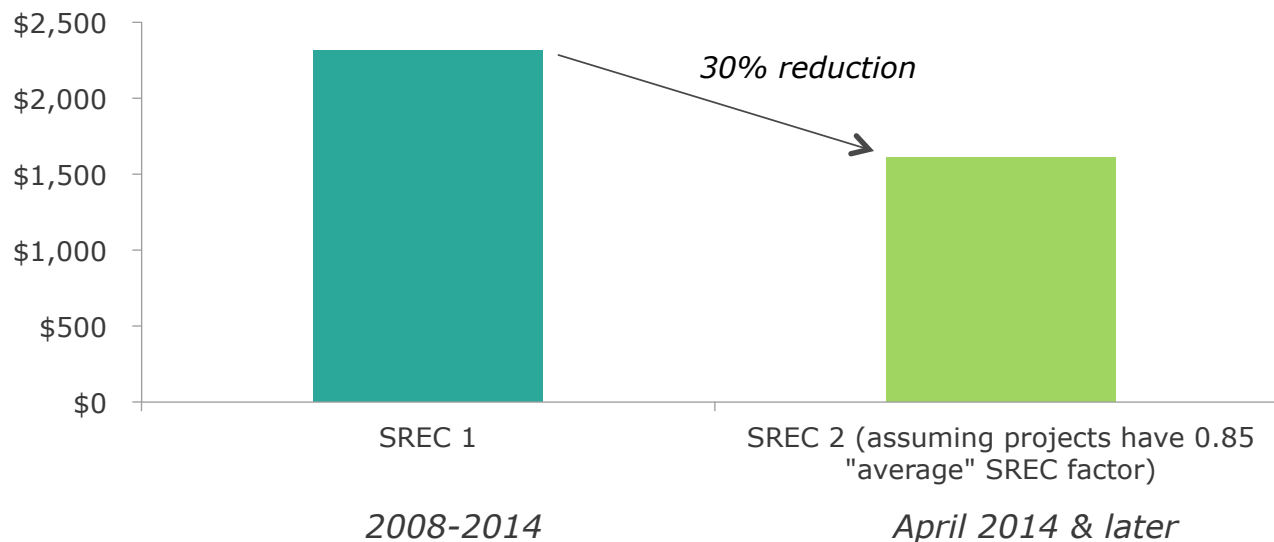
***First, let's consider some facts about solar in MA and in the region***

# Claims that MA solar incentives have not declined at all are inaccurate

*"While solar installation costs have decreased by 35% since 2011 – and are projected to decline another 60% by 2025 – solar subsidies have not declined correspondingly. In fact, they have not declined at all."*

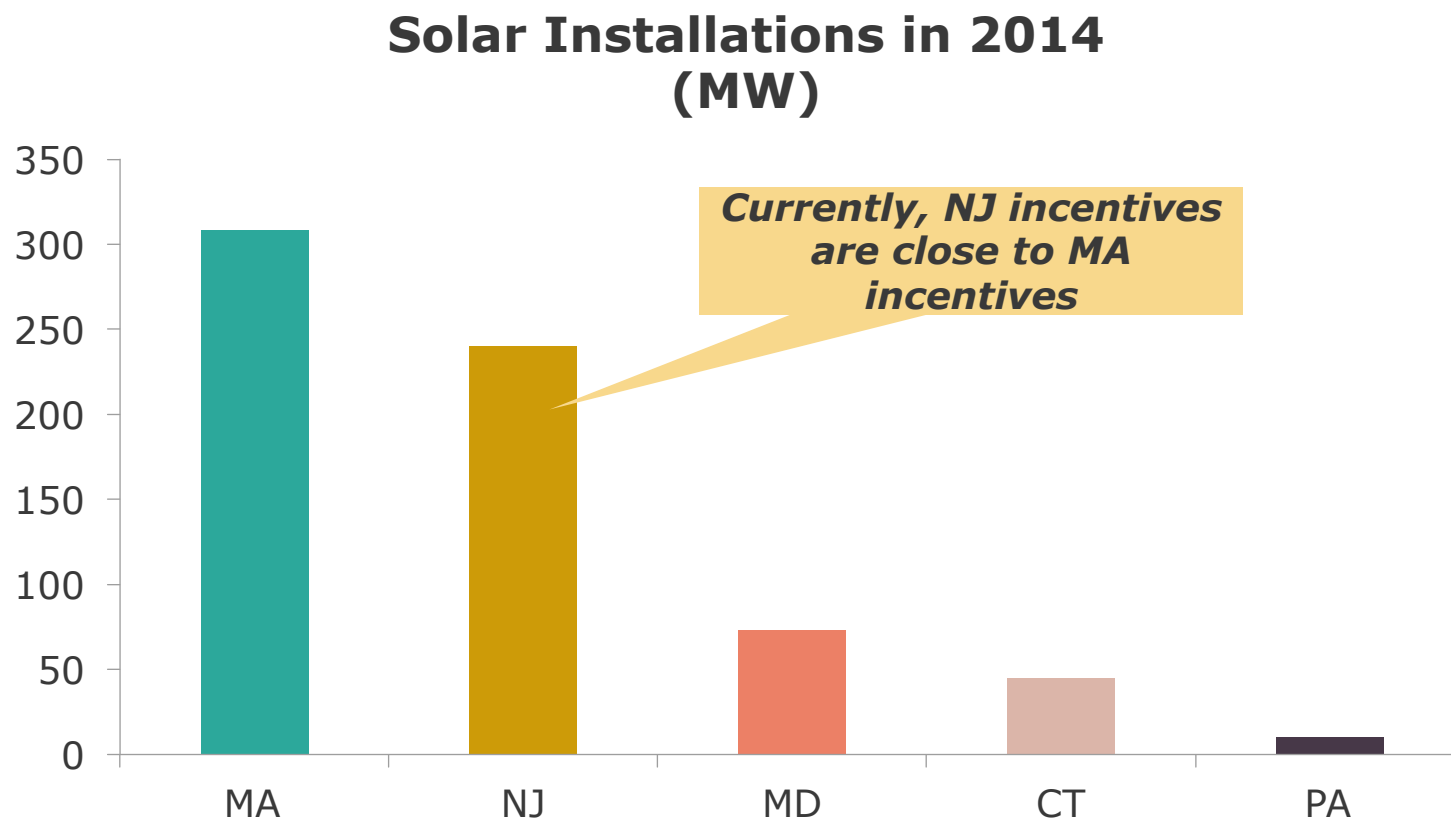
AIM letter October 2015

## SREC incentive value per unit of solar (Net present value of 1MWh per year)

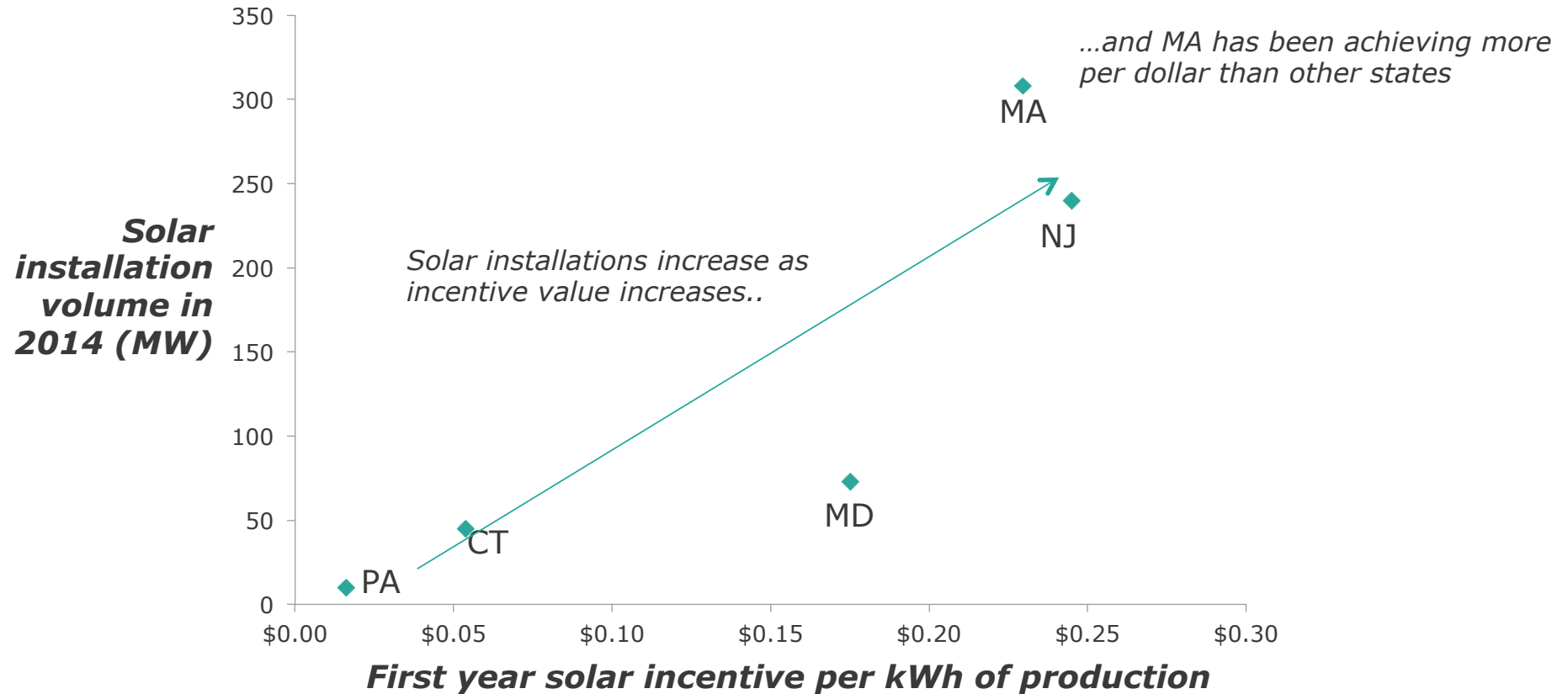


**SREC incentives alone have come down ~30% since 2012  
In addition, the MA state rebate for rooftop solar has gone from \$0.40/W to zero since 2011, a further 8-10% reduction in incentives.**

# Claims that other states made as much progress on solar are incorrect

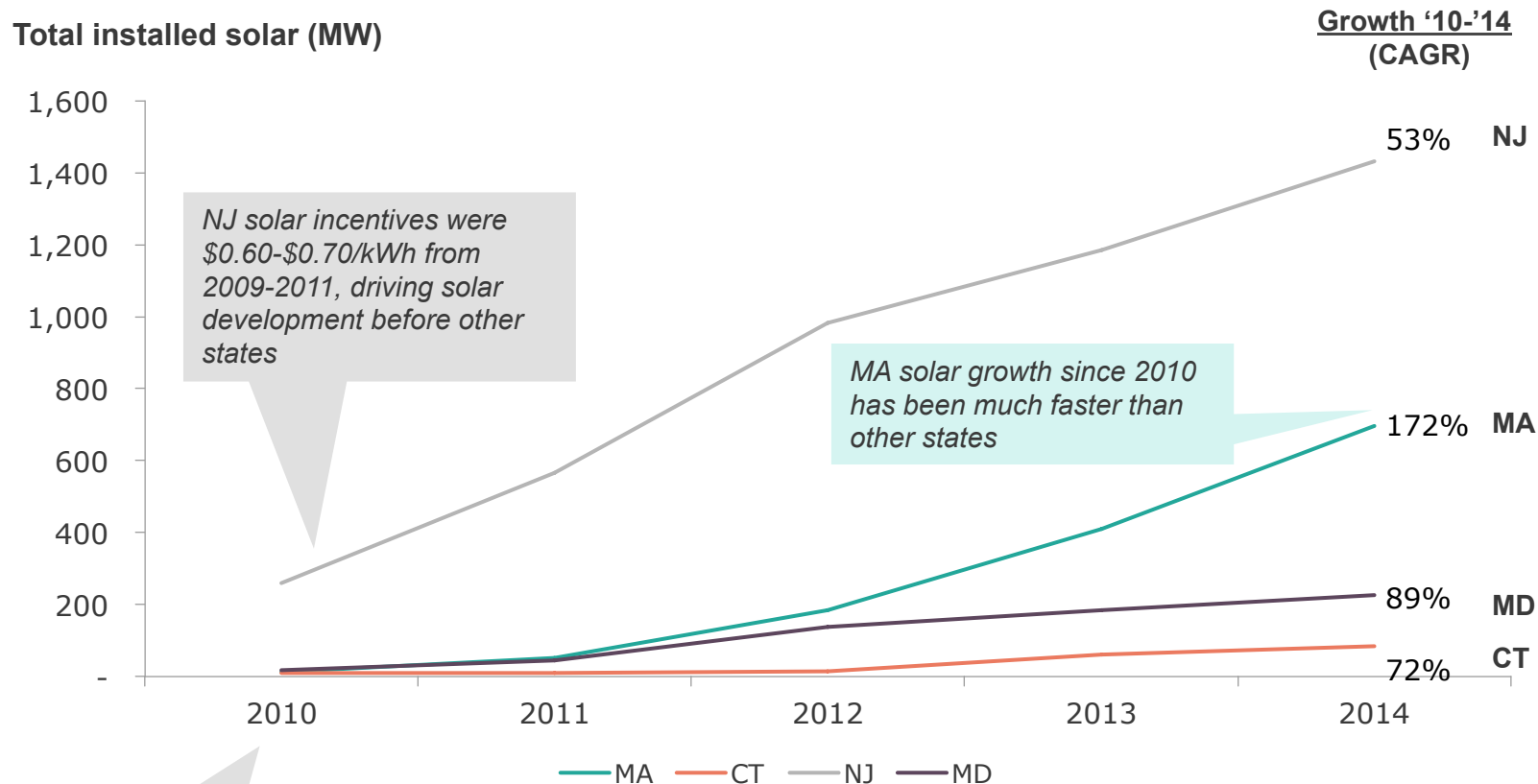


# Solar incentives are directly related to market volume



**This is a policy question: Is a similar solar growth rate needed for MA's energy supply and GWSA goals?**

# Since 2010, Massachusetts solar has grown much faster than in other local states



- Massachusetts has been successful in promoting robust growth in solar during the industry's early development stage.
- Deployment throughout the country is being driven by rapidly declining costs to install solar.
- Comparing Massachusetts incentives to other states, reveals a tremendous disparity, suggesting over-sized subsidies.
- Today's very rich incentives are unnecessarily raising annual solar cost to almost \$600 million a year representing a hidden energy tax.
- Left unchecked, this will result in an unnecessary ~\$9 billion energy tax on home and businesses in Massachusetts over the next 10 years.

*Supportive state policy is also necessary for solar deployment, as found by the solar task force. States without net metering have very little solar*

*Incorrect. MA has installed 400%-3000% more solar recently than other states with lower incentives. MA incentives are currently similar to New Jersey, and slated to step down over 40%.*

*Incorrect. Eversource claims about "today's incentives" are in fact using numbers from yesterday's incentives – the incentives for solar installed before mid 2014*

*Wrong. Costs going forward are significantly less than \$200M per year. They are using older cost numbers and projecting them forward rather than using the correct lower numbers for today's program*

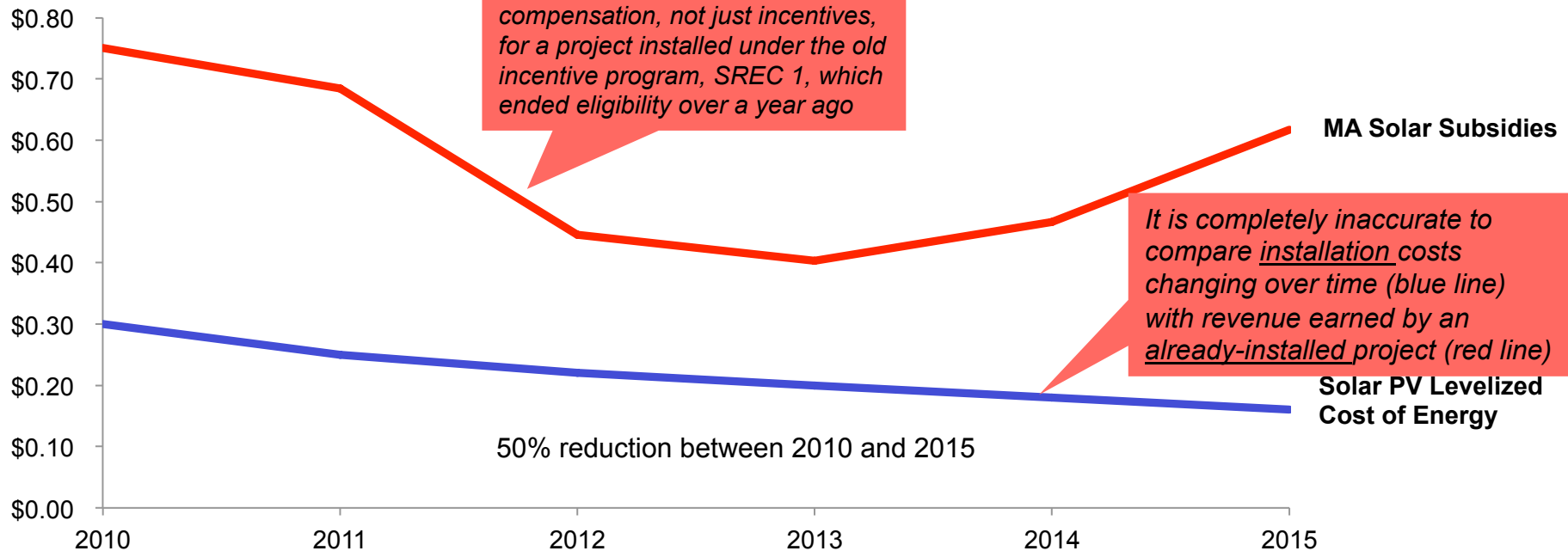
**Note the lack of any mention of the benefits provided by investments in solar to the energy system and to the Commonwealth overall provided. The task force showed that these benefits for all electric customers are ~\$2.50 for every dollar invested.**

# Solar Subsidies not Tracking Installation Costs

**Windfall subsidies for solar companies have been growing and are being locked in the long-term, while costs are declining.**

## Solar PV Levelized Cost of Energy and MA Solar Incentives

\$ per kWh



*These claims are not accurate, and the data shown below does not support it. In fact, MA solar incentives are down ~30% since 2012, in-line with reductions in costs*

*This line appears to be showing all compensation, not just incentives, for a project installed under the old incentive program, SREC 1, which ended eligibility over a year ago*

*It is completely inaccurate to compare installation costs changing over time (blue line) with revenue earned by an already-installed project (red line)*

50% reduction between 2010 and 2015

***Inaccurate comparison***

***Inflated costs: Showing all revenue to solar, not just incentives***

***Showing old incentive instead of current one (SREC 1 instead of SREC 2)***

## Massachusetts solar incentives consist of a two part program.

- Solar Renewable Energy Certificates (SREC) which consist of a subsidy payment for each kWh produced currently at 45 cents/kWh
- Net Metering Credits – a credit on customers bills for each kWh produced equal to the total delivered cost of energy currently at 15 cents/kWh rather than the cost of produced energy

*Incorrect: Showing old program instead of current program. SREC 2 costs are currently ~\$0.23/kWh, and are slated to decline over 40%*

*The incentive cost is ~\$0.08/kWh over the 25-30 year life of a typical solar project*

*Incorrect data for MA policy. The MIT solar study is not an accurate basis for considering MA solar policy actions, as stated in the study.*

*It is focused solely on carbon reduction impacts, and does not consider many other aspects of solar and electricity policy.*

*All recent value of solar studies not funded by utilities have shown that solar provides benefits well above and beyond full retail rate: avoided transmission, lower overall power prices due to lower demand for central power, and others*

*Paying solar the cost of centralized produced energy is like someone trying to buy your car by just paying for the engine.*

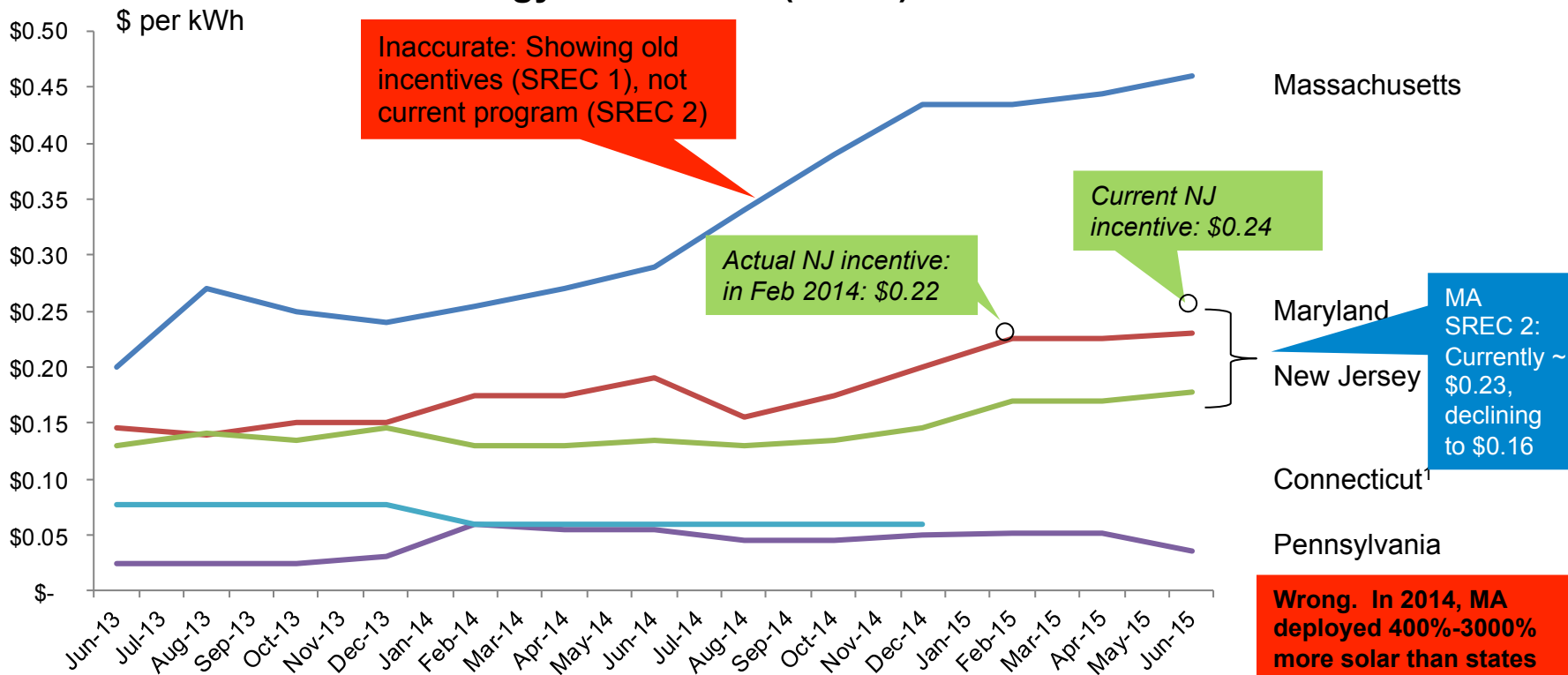
**These incentive payments far exceed the cost to install solar systems – large commercial installations at 12 cents/kWh and small residential installations at 20 cents/kWh (MIT solar study)**



# MA Solar Subsidies Dramatically Higher

**Massachusetts solar subsidies are dramatically out of line with other states and don't recognize the decline in installation costs.**

## Solar Renewable Energy Certificates (SREC)



<sup>1</sup> Connecticut prices based upon competitive solicitation process and represents the average of all classes. Source: Eversource analysis.

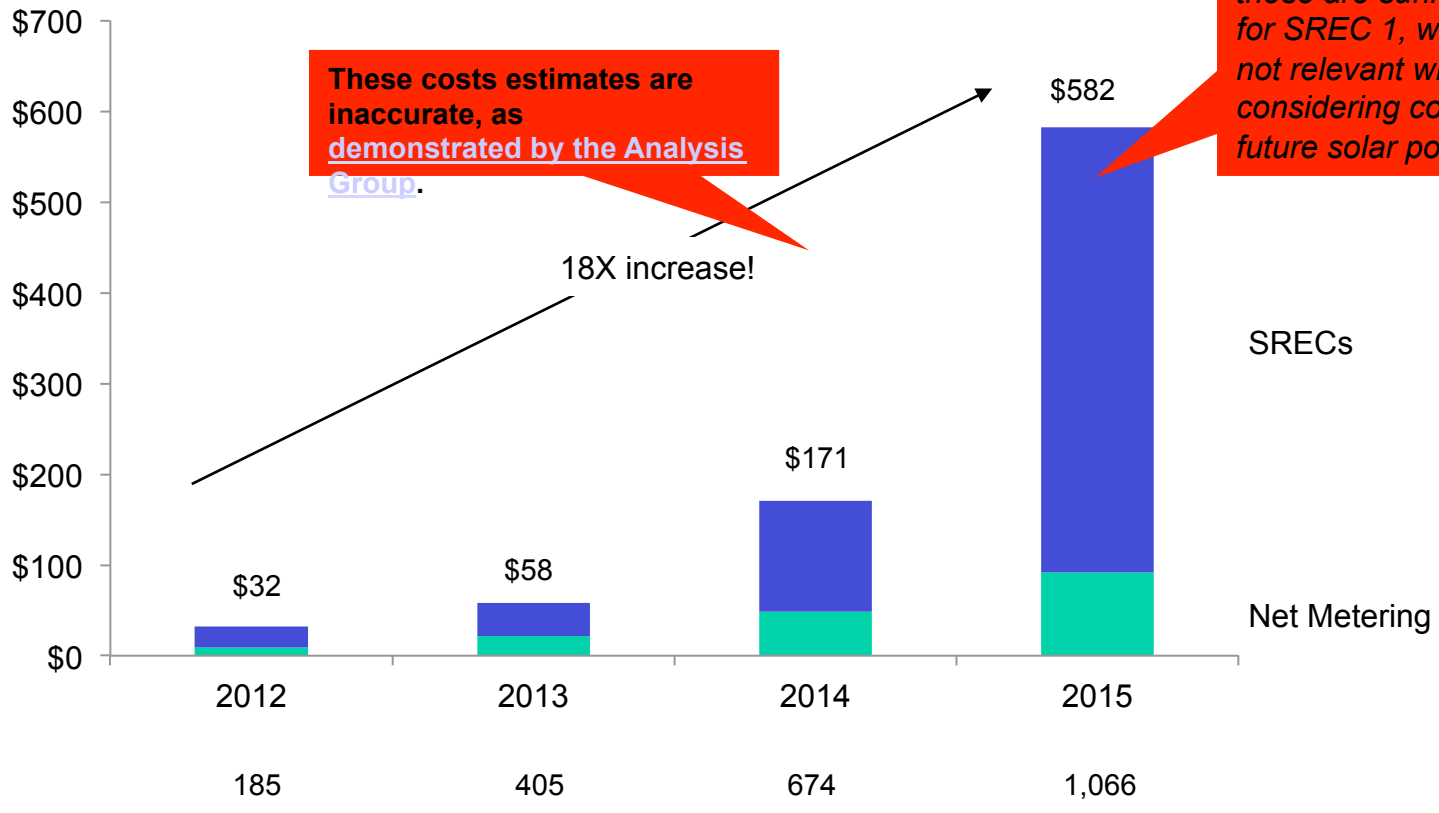
**Wrong.** In 2014, MA deployed 400%-3000% more solar than states here except NJ, whose per-kWh incentives are similar to MA today.

**These states are as successful as Massachusetts in deploying solar.**

Today's rich incentives are unnecessarily raising annual solar costs to \$600 million a year representing a hidden energy tax and growing.

## Massachusetts Estimated Solar Costs

\$ Millions



Cumulative MWs  
installed

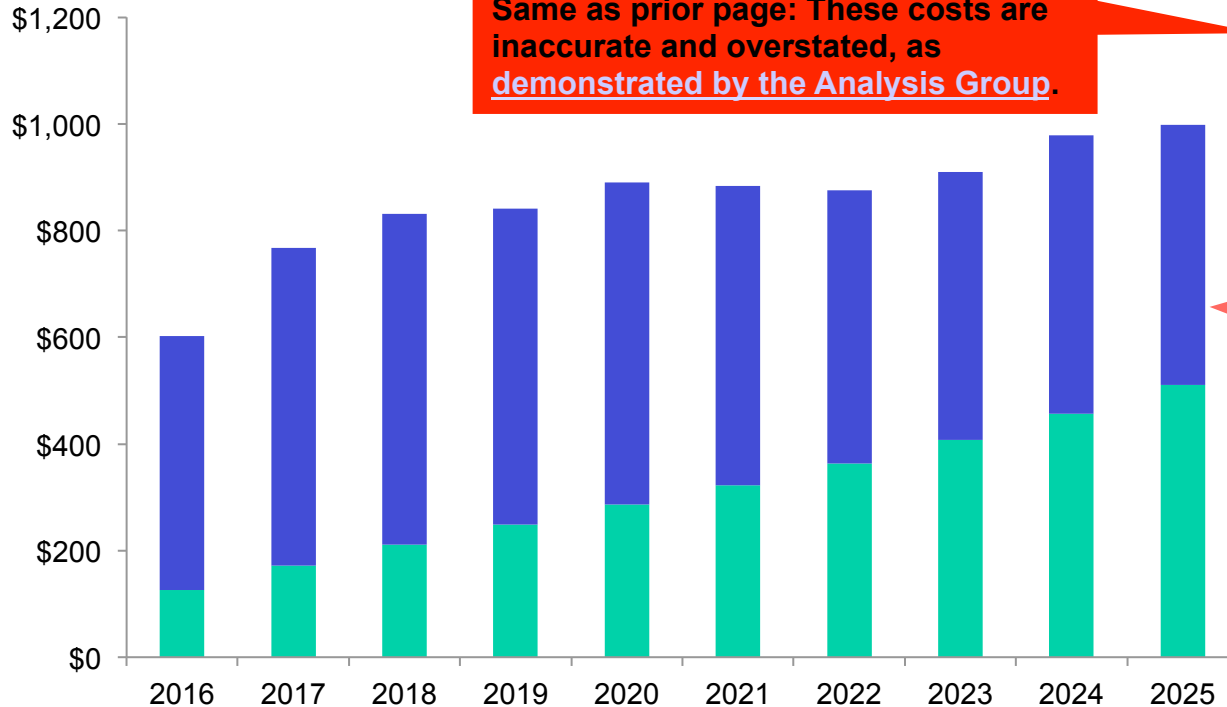
# Solar Program Costs on the Rise

**Combined impact represents a \$9 billion energy tax.**

**Incorrect, and does not consider benefits of solar that are ~2.5x the costs**

## Massachusetts Total Projected Solar Costs

\$ Millions



**Same as prior page: These costs are inaccurate and overstated, as demonstrated by the Analysis Group.**

**Total**

**Total  
(2016-2025)**

**~ \$8.8B**

**SRECs**

**~ \$5.7B\***

*In fact, from here forward, SREC 2 is estimated to cost less than half a cent per kWh*

**Net Metering ~ \$3.1B**

\* Includes \$500M in projected incentives after SREC II

**Cost to comply with solar targets are especially impacting our residential, small C&I and large customers.**

Incorrect, both on cost level and failure to consider benefits of 2.5X cost to each group overall vs. the numbers show here

## Residential Customers



~\$83/year in 2015  
~\$209/year in 2025

These numbers are more than 350% too high, compared to Task Force report

## Small Commercial & Industrial



~\$340/year in 2015  
~\$776/year in 2025

## Medium-Sized Hospital



~\$400,000/year in 2015  
~\$600,000/year in 2025

## Manufacturing



~\$750,000/year in 2015  
~\$1.3 million/year in 2025

## Insurance



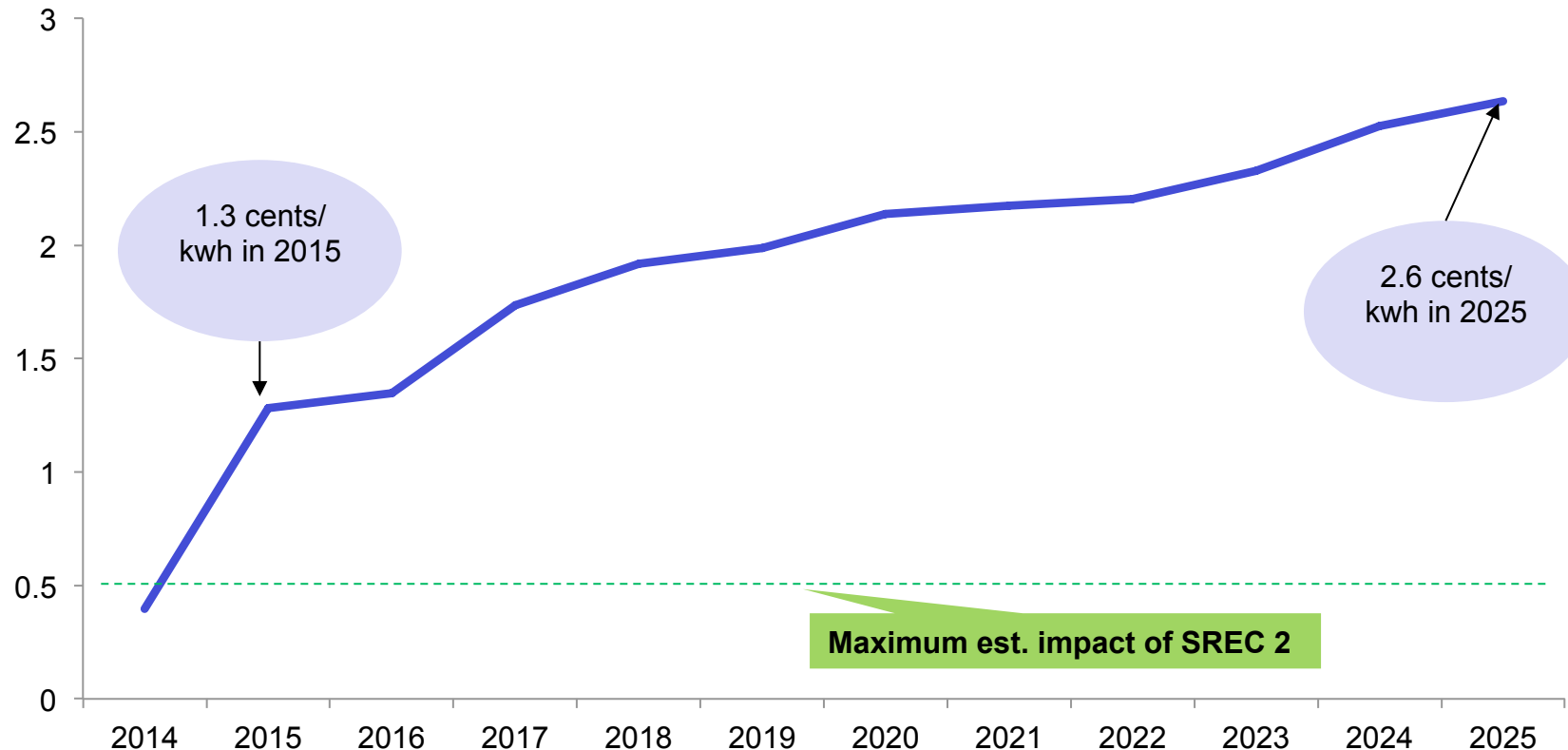
~\$270,000/year in 2015  
~\$372,000/year in 2025

Actual cost to non-participating industrial customers: \$1,620/year  
(Source: Net Metering Task Force)

Rate impact will increase by 100% over the next 10 years.

## Projected Residential Rate Impact

Cents/kWh



## Eversource has developed an alternative that addresses both components.

### Replace Net Metering with a Special Solar Rate

Incomplete and not cost-effective. Instead, compensate solar fairly for all the values it provides, of which generated power is just one.

Ensure solar also pays fairly for grid services it uses.

- Solar rate priced at value of generation in the load zone
- Price fixed for six month intervals based on competitive market dynamics

### Move SREC Program to a Competitive Bid Process

Competitive bidding is ineffective and not cost-efficient in the real world for solar.

It has been shown in other states to drive higher costs and to miss solar goals.

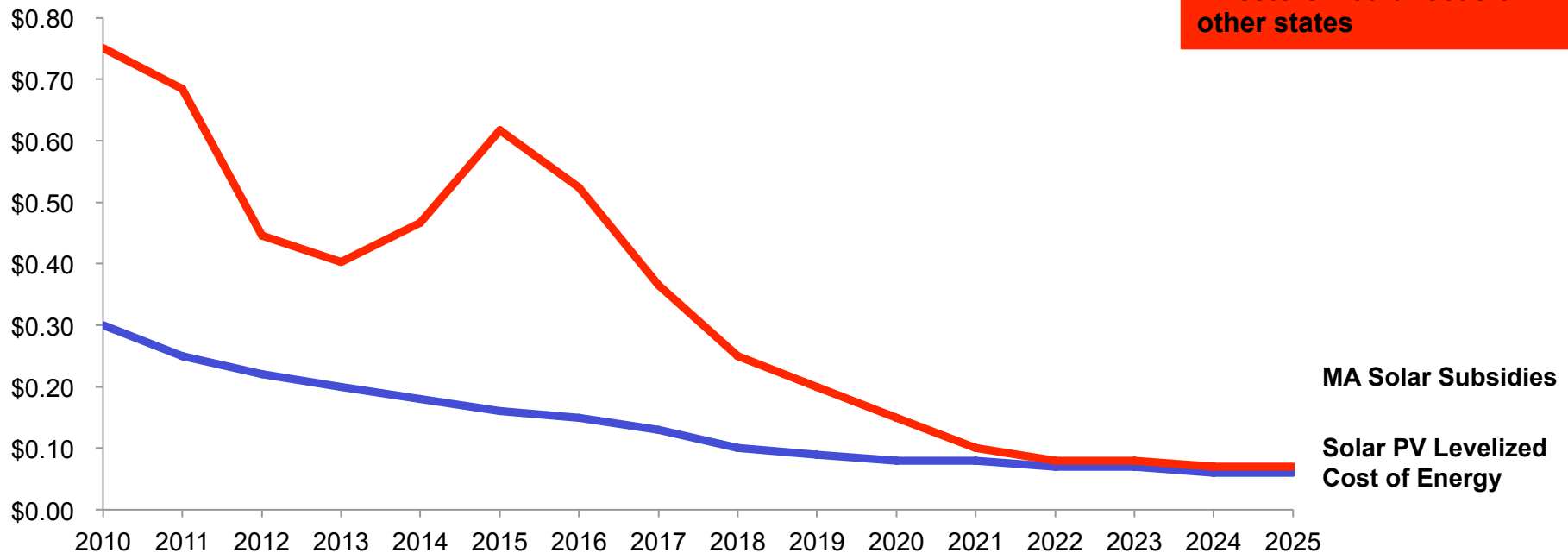
- Allows competition process to lower costs
- Consistent with neighboring states
- Consider capping incentives at \$300M and manage it down over time

Same budget control is provided by a block incentive program such as in CA or NY, which recently moved ahead of MA in solar installations.

**Eversource proposal continues robust solar expansion, but saves customers at least \$5 billion in needless subsidies.**

**Incorrect. Nowhere does this show how much solar Eversource estimates would occur. In fact, little to none would happen as investors would focus on other states**

**Solar PV Levelized Cost of Energy and MA Solar Incentives**  
\$ per kWh



- Excessive solar energy subsidies represent a hidden tax and a large burden on Massachusetts' customers bills.
- Massachusetts very expensive subsidies are out of line compared to other successful solar states.
- Solar subsidies, as currently structured and proposed, represents a huge windfall for solar companies, many of them out of state.
- Binding commitments will continue to grow if no action is taken soon.
- Excessive subsidies will continue to put pressure on electric rates, which are already the 3<sup>rd</sup> highest in the nation.
- Timely legislation is required to fix this problem as soon as possible and reduce future costs of meeting Massachusetts' solar goals.

Inaccurate, overstated cost numbers and no consideration of benefits that are 2.5x costs

In fact, solar incentives are directly linked to volume of solar installations (and MA is even outperforming the trend). MA installed 400-1000% more than states with lower incentives.

This is a claim based on outdated data of the old incentive program. Current solar incentives have come down ~30% since 2012, in line with solar cost reductions

Utility cost estimates have been shown by third party analysis to be inaccurate and overstated

Going forward, SREC 2 is estimated to cost less than half a cent per kWh.

Timely legislation is needed to enable MA to achieve its 1600MW solar goal in the most cost effective way, by raising the caps.