

Reducing Emissions from the Electricity Sector: Costs and Benefits Nationwide and in the Empire State

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Multipollutant Policy History and Acronyms

- Federal legislation is stalled.
- At least 8 states, including New York, have multipollutant policies.
- EPA recently finalized two new rules:
 - Clean Air Interstate Rule (CAIR) – SO₂ & NO_x in 28 Eastern states
 - Clean Air Mercury Rule (CAMR) – mercury only, national
- Many state officials are eager to see tougher restrictions on mercury emissions and technology based approach is often preferred due to fears about hot spots.
 - Maximum Achievable Control Technology (MACT)

Four Policy Cases Analyzed

CAIR-P (as proposed)

Moderate Mercury Caps

CAMR-P
(as proposed)

CAMR-P*
Plus added
Seasonal
NO_x cap

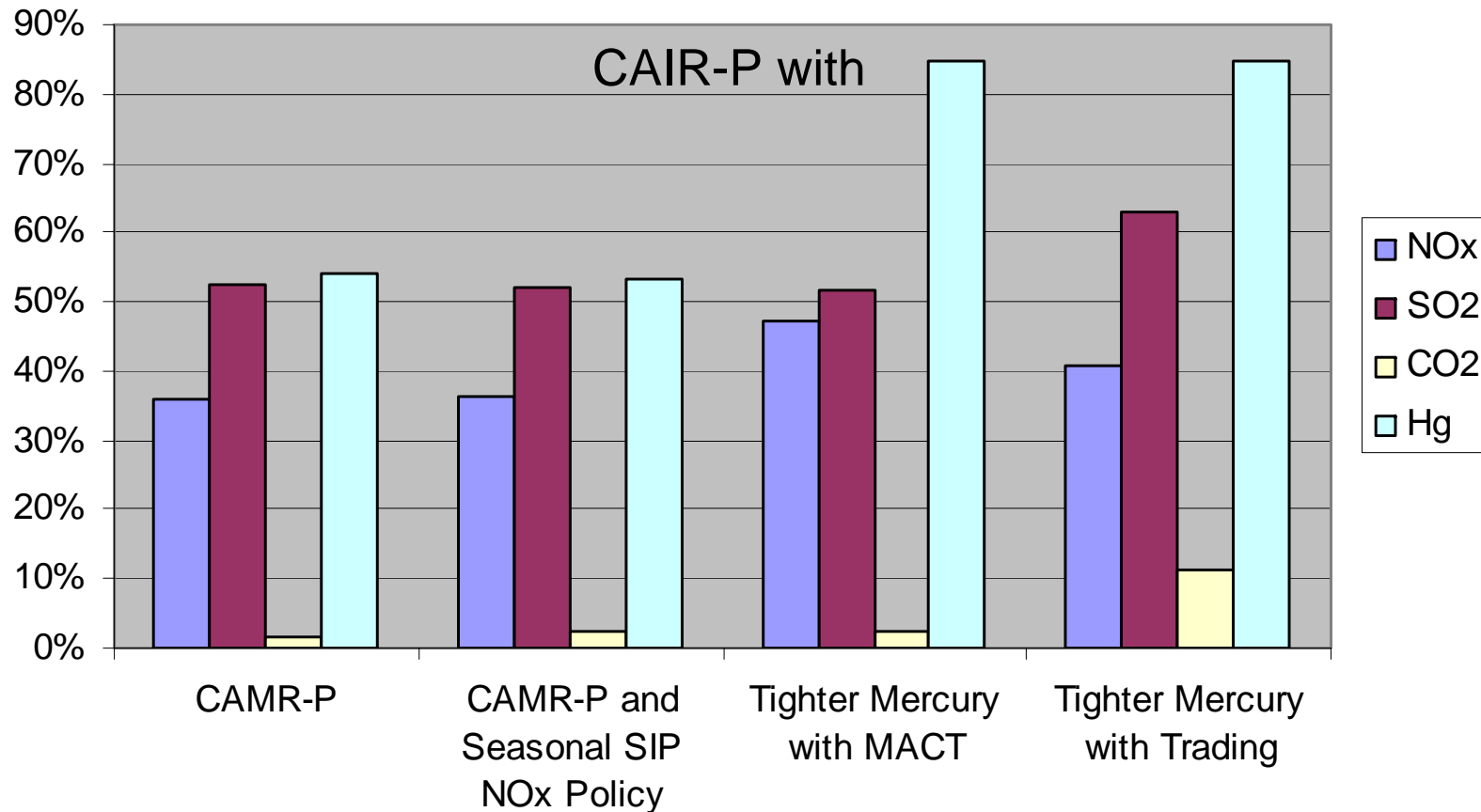
Strict Mercury Caps

Tighter Mercury
with MACT
(Technology Standard)

Tighter Mercury
with Trading

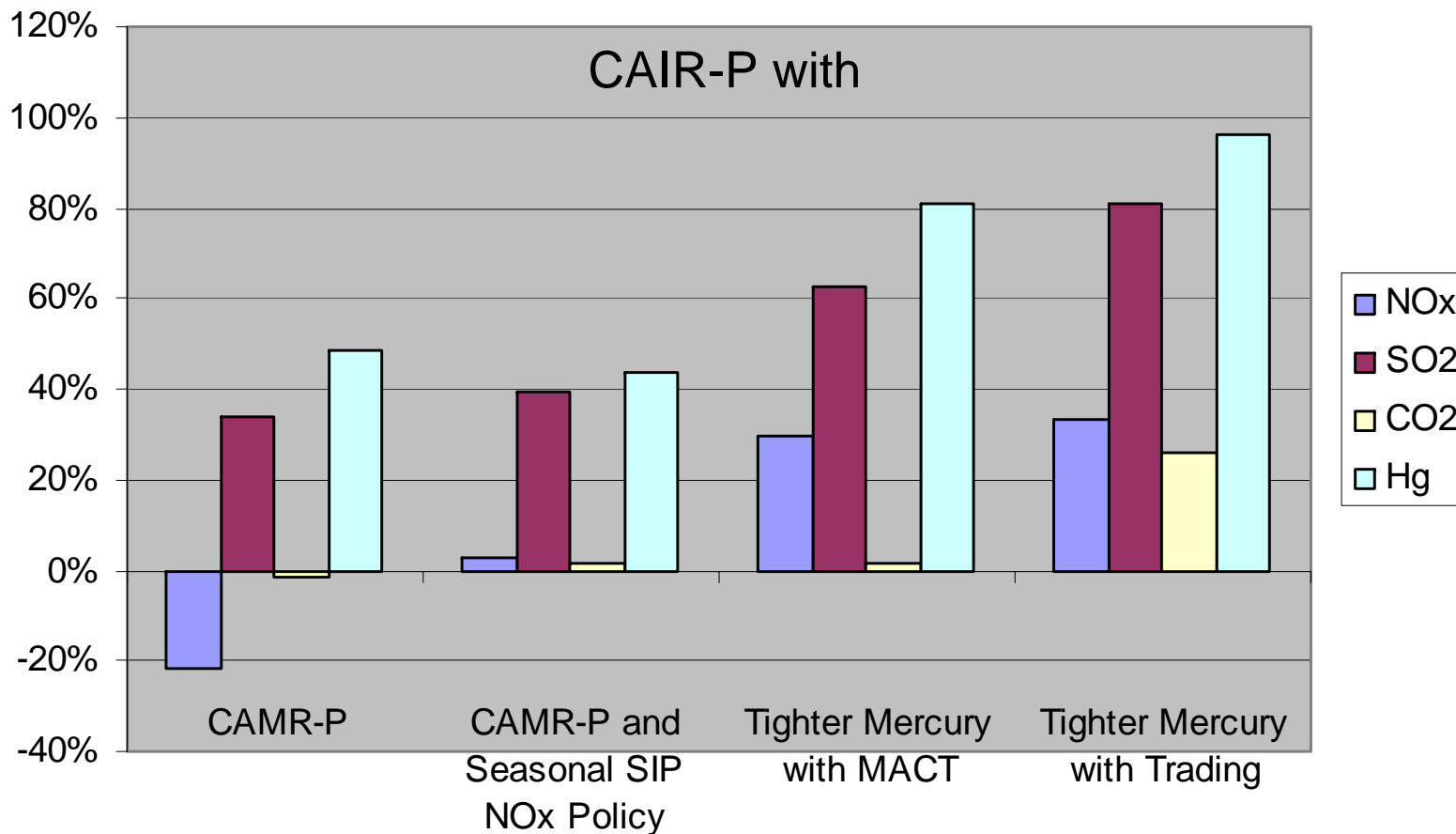
* This scenario is most similar to EPA's final rules.

National Emission Reductions in 2020



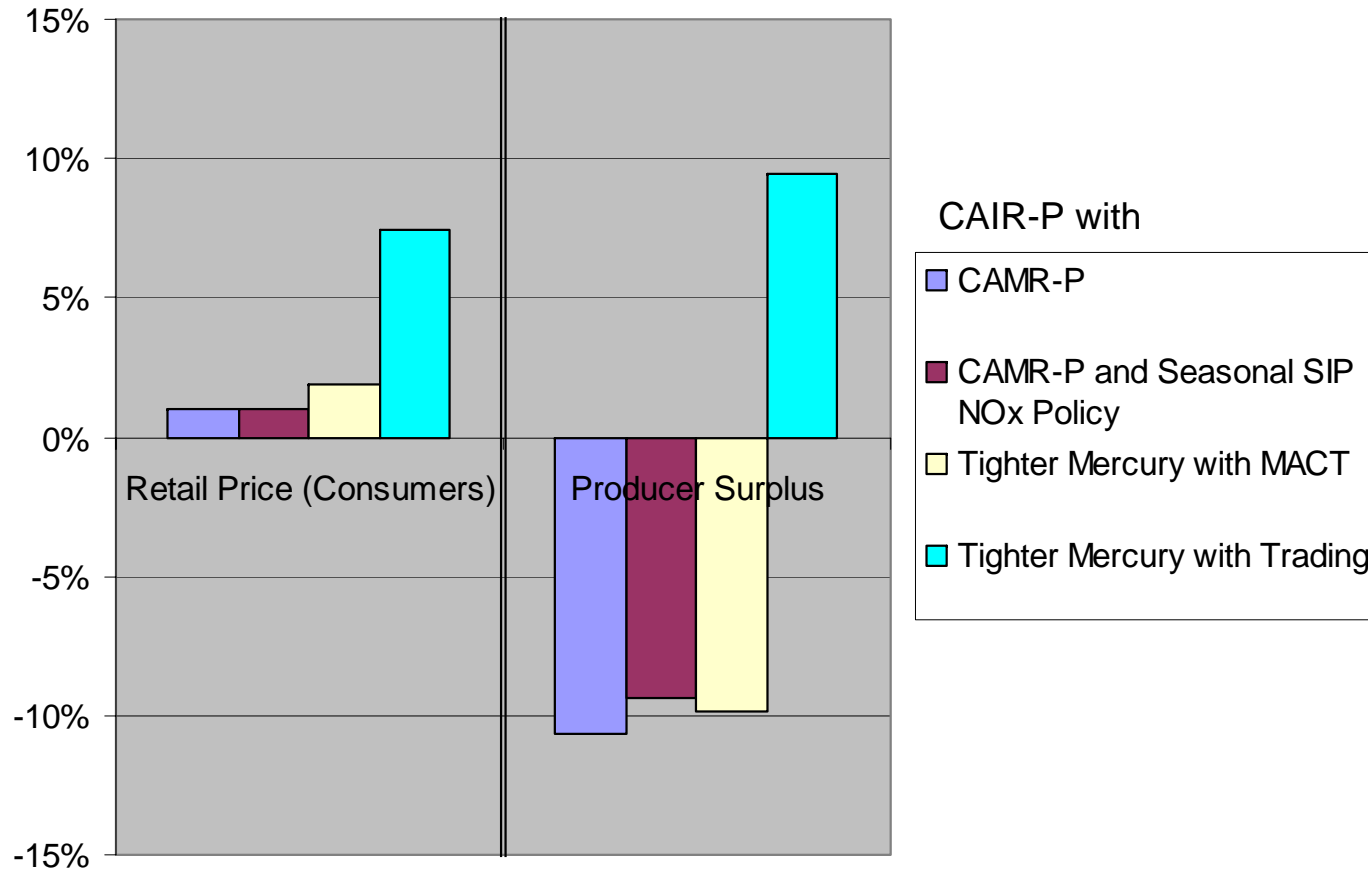
All policies deliver substantial reductions in emissions of targeted pollutants.

Emission Reductions in New York in 2020



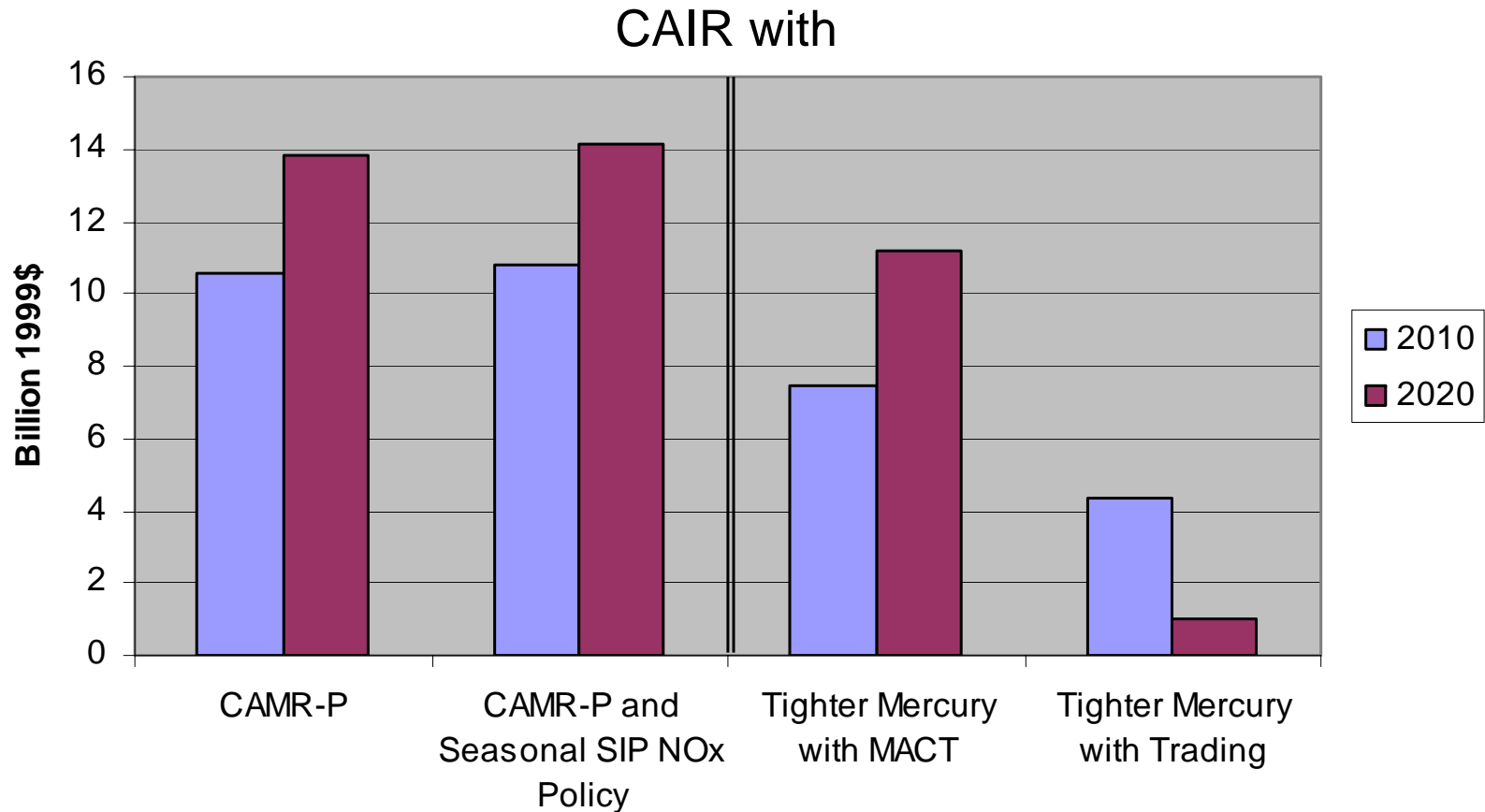
There is greater variation in emissions impacts in New York across policy options.

Price and Profit Effects in 2020



Impact of policies on electricity price is small except with Tighter Mercury with Trading. In that case, electricity price rise is large and producer profits rise.

National Net Benefits by Policy



All policies produce positive net benefits in New York and Nationwide.

Evaluation of CAIR-F (final)

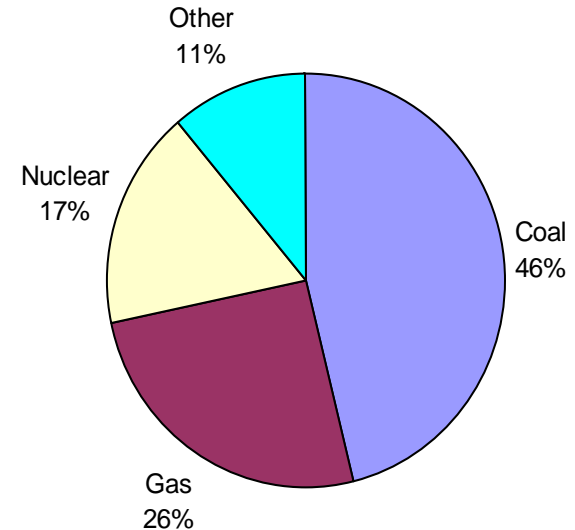
- EPA decision to maintain seasonal NO_x policy in its final CAIR rule improves the net benefits relative to CAIR-P and helps the Northeast.
- However, EPA does not maximize net benefits with CAIR-F because SO₂ caps could be tighter and provide even higher net benefits.

National Fuel Shares under CAIR-P with Tighter Mercury Caps in 2020

Tighter Mercury with MACT



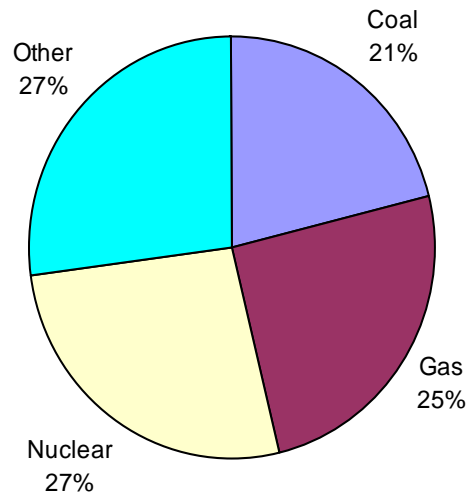
Tighter Mercury with Trading



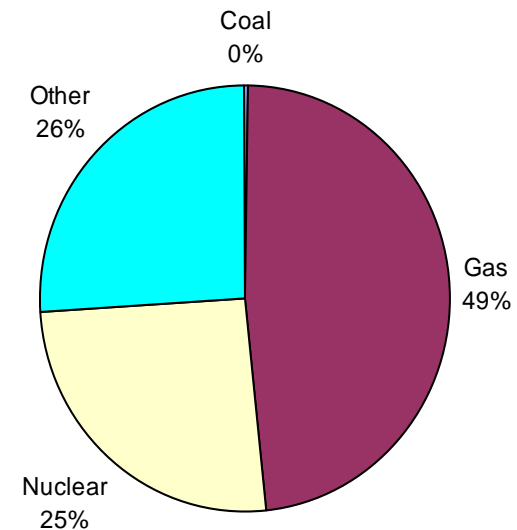
With strict mercury targets, administration goals of promoting market-based policy and preserving a role for coal start to collide.

New York Fuel Shares under CAIR-P Tighter Mercury Cap in 2020

Tighter Mercury with MACT



Tighter Mercury with Trading



With strict mercury targets and trading, coal-fired generation virtually disappears in New York by 2020.

Bottom Line

- The reductions in emissions that would be achieved under the EPA final rules or any of the alternatives we investigate offer important economic benefits in excess of costs to the Empire State and to the nation as a whole.

Is CAIR/CAMR the Last Word?

- Economic analysis suggests that the benefits of even further reductions in SO₂ beyond CAIR requirements far exceed the costs.
- Frequent new discoveries about environmental and health effects of mercury are changing the terms of the policy debate.