

Synapse
Energy Economics, Inc.

From Gross to Net: The True Impact of Energy Efficiency Resources

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- Founded in 1996 by CEO Bruce Biewald
- Leader for public interest and government clients in providing rigorous analysis of the electric power sector
- Staff of 30 includes experts in energy and environmental economics and environmental compliance

Today's Questions

- What is Net to Gross (NTG)?
- Why does net to gross matter?
- How do states treat net to gross?
- How can states do net to gross better?

What is Net to Gross?

Gross Savings

are estimated by engineers who compare (a) standard or replaced equipment to (b) equipment installed through an energy efficiency program



What is Net to Gross?

Adjusted Gross Savings

account for factors such as data errors, installation rates, persistence rates, and hours of use



What is Net to Gross?

Net Savings

primarily
account for the
effects of free
riders and
spillover



What is Net to Gross?

Spillover

represents savings caused by the *presence* of an energy efficiency program, but customers do not receive incentives or technical assistance from the program



What is Net to Gross?

Free Riders

are participants who would have implemented the measure in the absence of the program



What is Net to Gross?

- Gross = engineering estimates
- Adjusted gross = more realistic savings
- Net = what a Program Administrator can claim
 - Spillover = did not participate but influenced by efficiency program
 - Free-ridership = did participate but did not need to

Net to Gross Ratio

= 1 - Free Ridership + Spillover

Why does NTG matter?

- Efficiency programs are designed to overcome market inefficiencies
- At some point, the programs are successful and the market is transformed
- Identifying that tipping point is challenging, but NTG helps
- Ensures appropriate, effective use of ratepayer funding
- Encourages greater innovation for energy efficiency resources

How do states treat NTG?

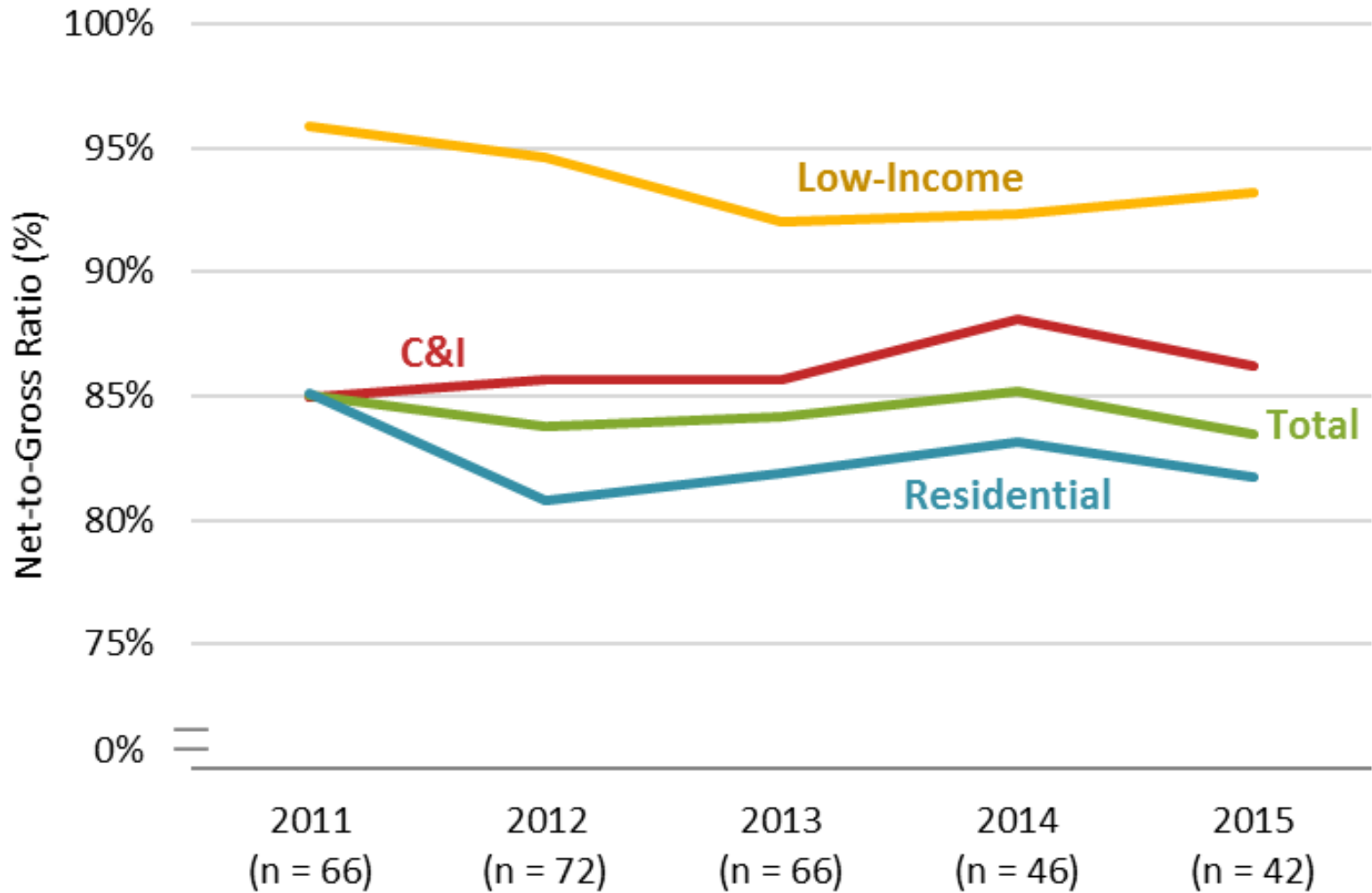
In 2015, Synapse researched NTG ratios that states use for efficiency savings

- Surveyed all 50 states plus DC
- Researched 24 states in detail
- Reviewed efficiency programs in 2011 through 2015
- Reviewed customer sector level NTG ratios (residential, low-income, commercial and industrial)
- Collected a total of 292 NTG ratios

How do states use NTG ratios?

- Different savings can serve different purposes
- Gross or adjusted gross savings are often used for system planning to accurately build a reliable system
- Net savings are primarily used for regulatory purposes, to indicate the amount of savings that are directly attributable to program efforts
- Policy decision for when to use each type of saving

What NTG ratios do states use?



Are states being consistent?

Nope!

- States use different definitions for the types of savings
- States do not indicate the type of savings reported
- States apply NTG ratios at different levels (measure, sector, program)
- States treat some programs or measures differently, applying a NTG ratio if available

How can states do better?

Ideally, evaluate and report gross, adjusted gross, and net savings

Realistically, transparency is key

Steps that states can take to improve the transparency of their savings assumptions include indicating upfront:

- the type of savings they are using
- how they define those savings, including the impacts that are and are not accounted for in the savings type
- how those savings are used by the state, regulators, and the utility

Thank you!

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