

# Economy & Energy Use: Measuring Structural Change in The Economy

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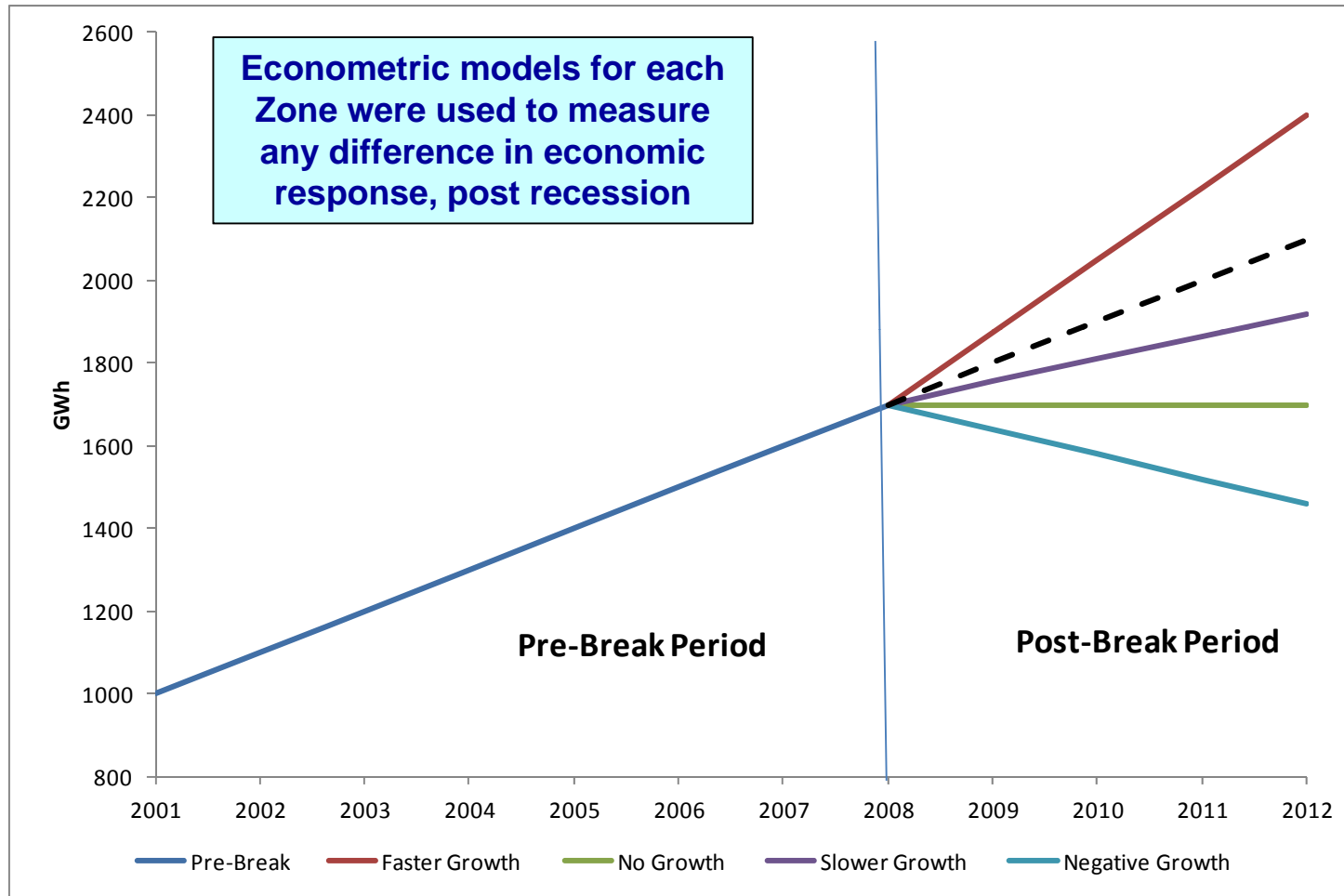
*January 28, 2013*

**KCC**

# Summary

- ◆ Weather normalized models that incorporate HDD, CDD, GDP and Employment were used to estimate post-recession structural changes in energy usage across NY
  - *Structural changes are attributed to several factors, including:*
    - Economic Restructuring
    - Changing Weather Response
    - Energy Efficiency/Conservation
  - *Statistically significant evidence supporting structural change since the economic recession*
  - *Load growth is now greater in Upstate zones as compared to Downstate zones*

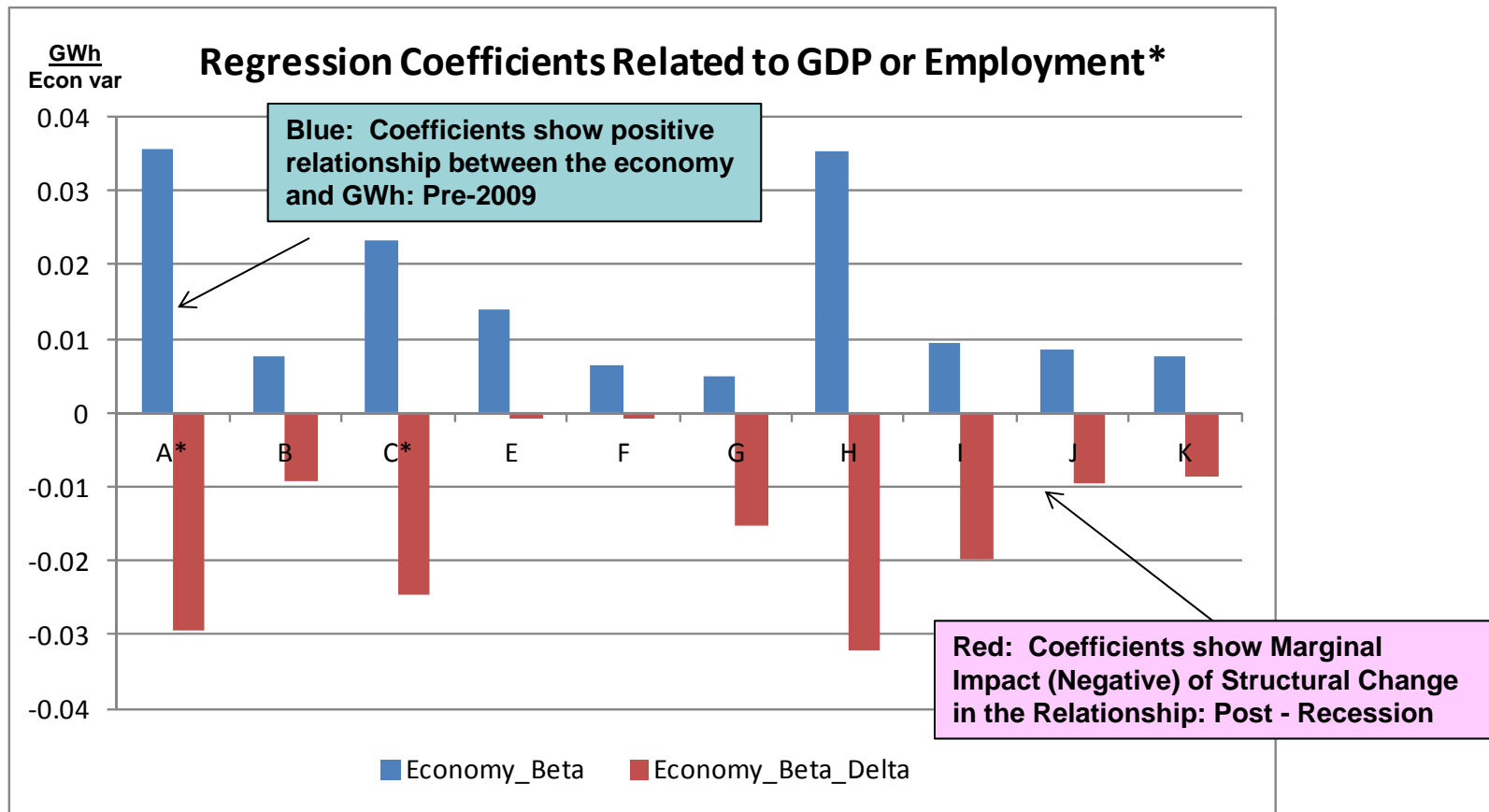
# Possible Outcomes of Structural Change



***In General, Structural Shift in Energy Usage Occurs around 2008-2009***

## Regression Coefficients Measure Structural Change

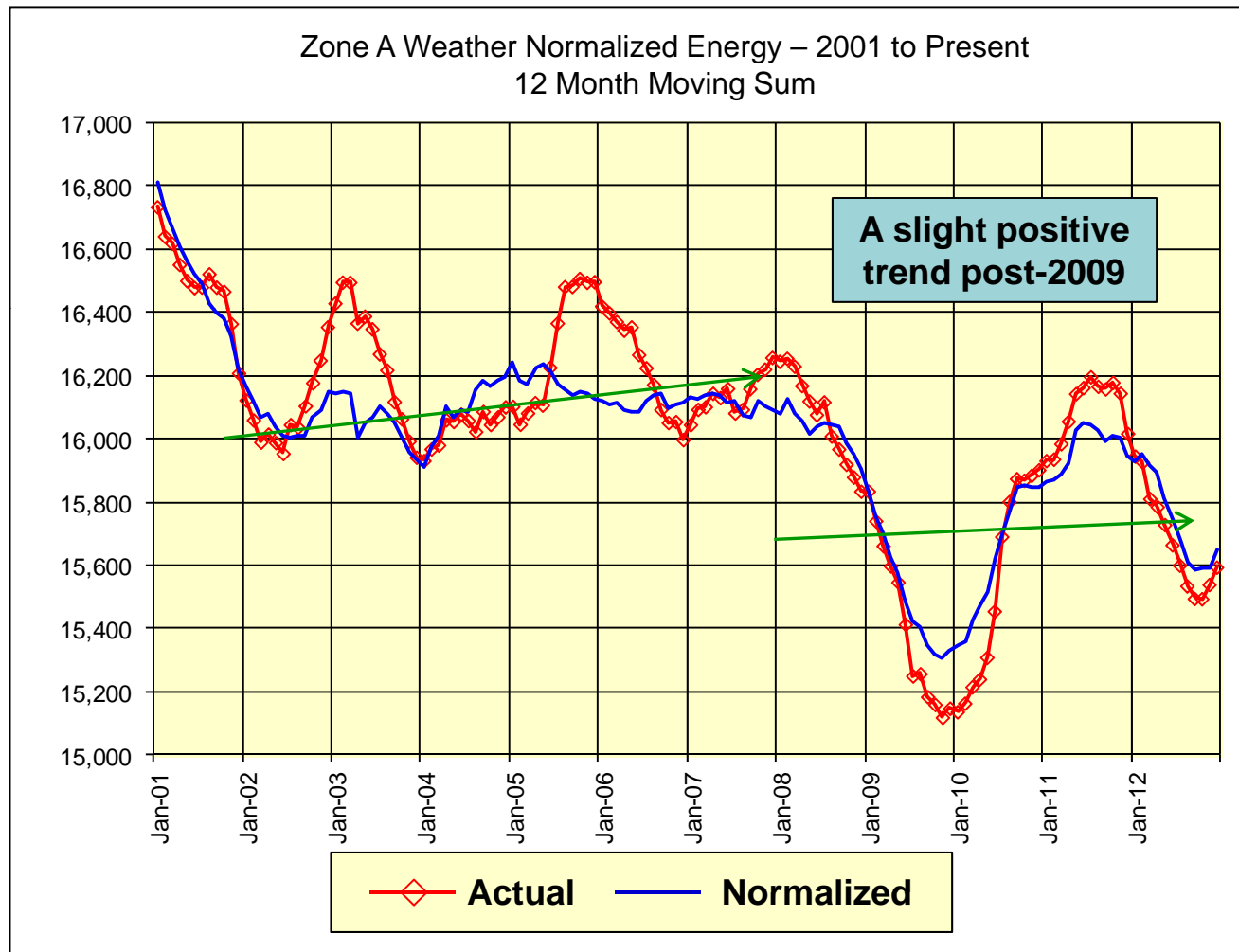
Blue is Pre-Recession Coefficient, Red is Post Recession Coefficient Change



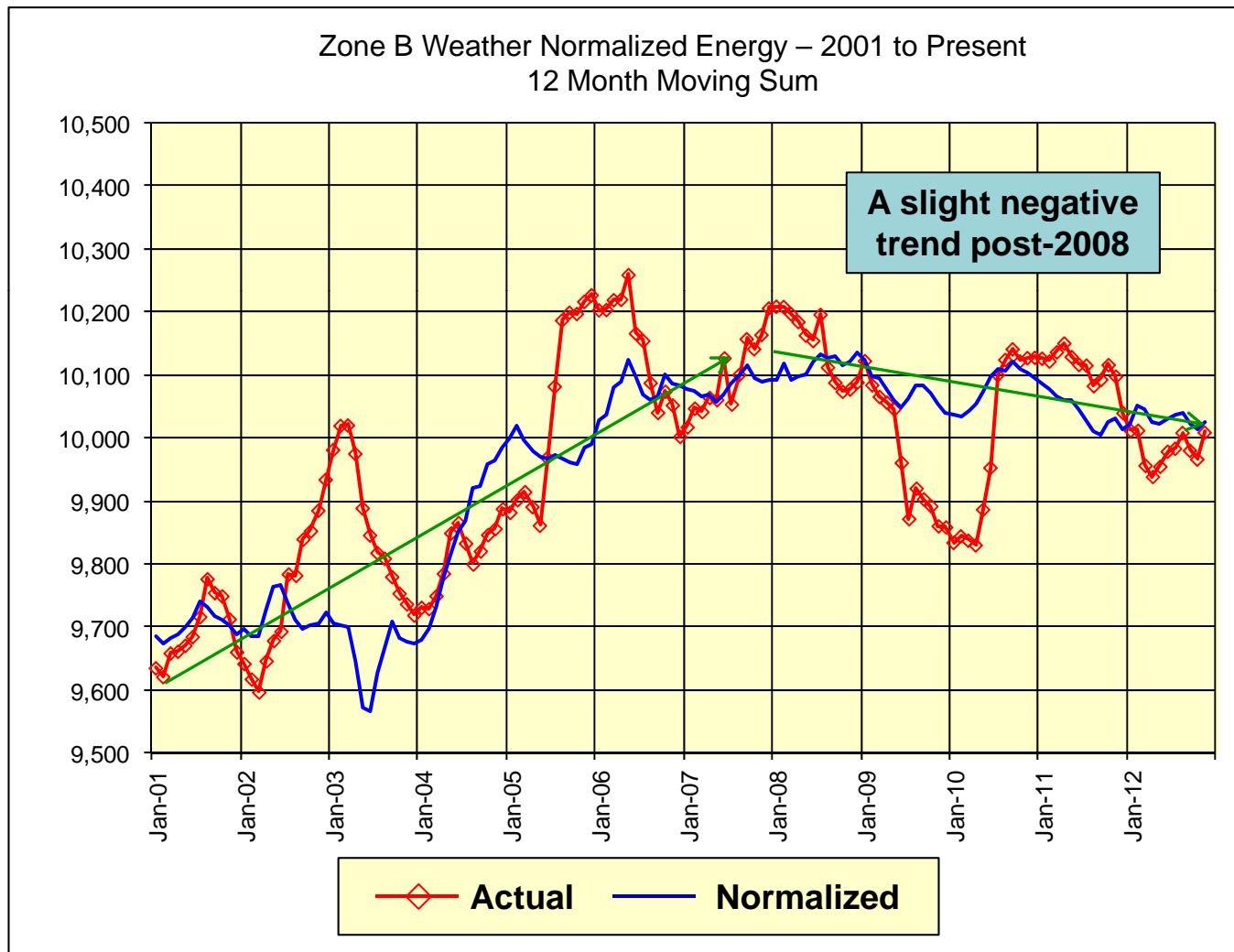
\* A & C coefficients: GWh/ (Employment/100) ; All other zones: GWh / Gross Metro Product

***E.g. For Zone K, while growth in GDP pre-2009 was accompanied by rising Energy Use, a structural break (due to a combination of factors) around 2008-2009 led to an off-setting impact whereby GWh ostensibly becomes decoupled to increases in GDP***

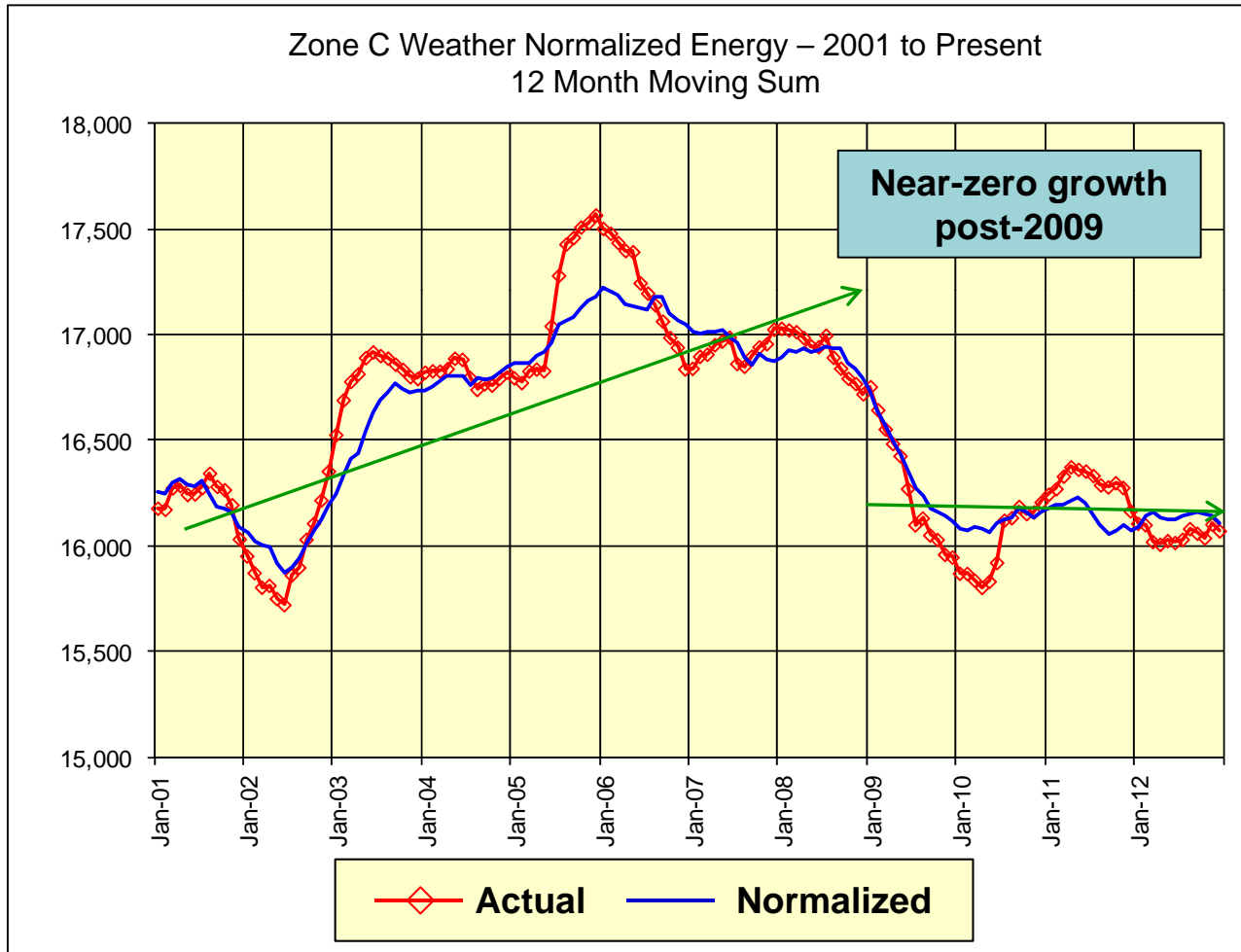
# Weather Normalized Energy: Zone A



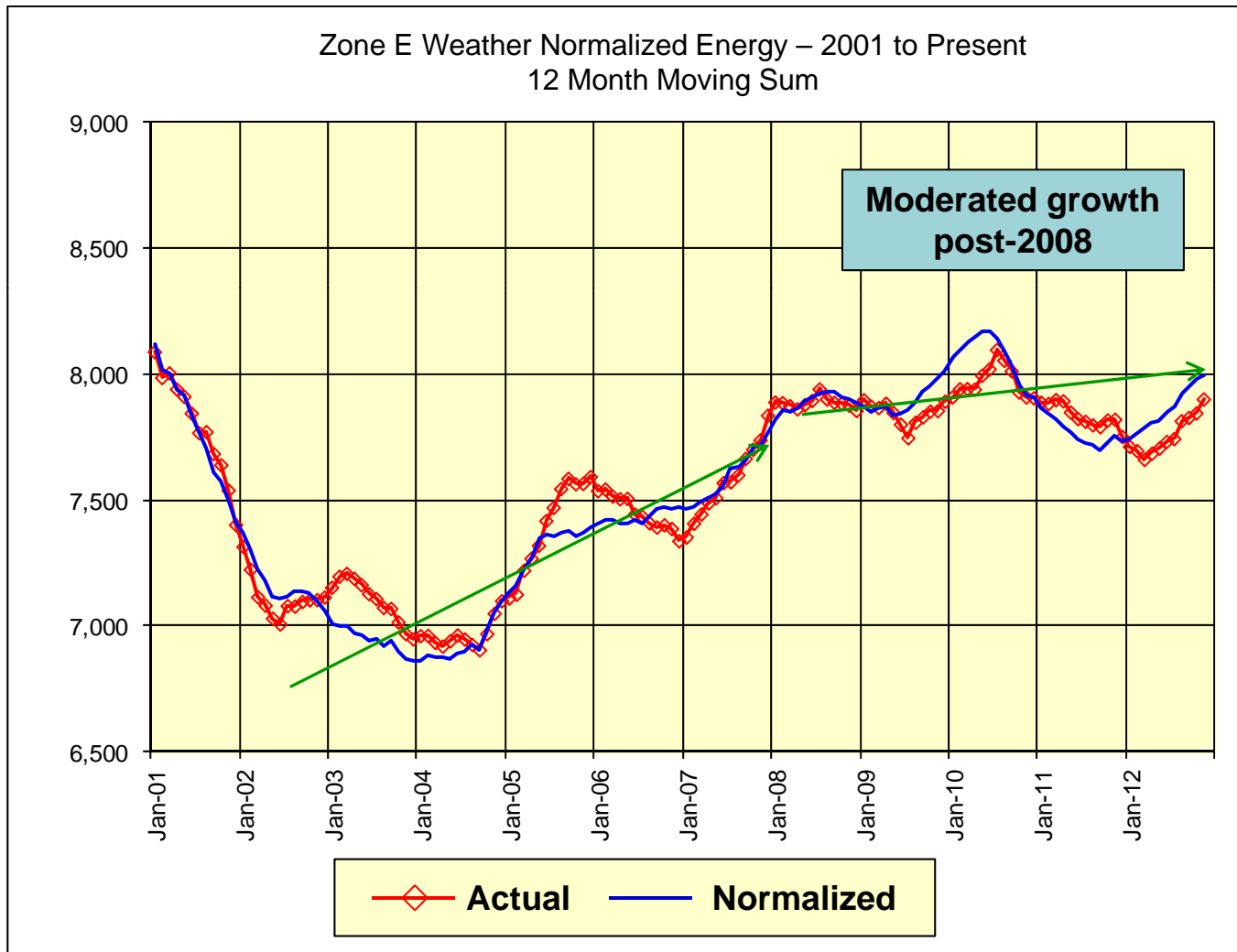
# Weather Normalized Energy: Zone B



# Weather Normalized Energy: Zone C

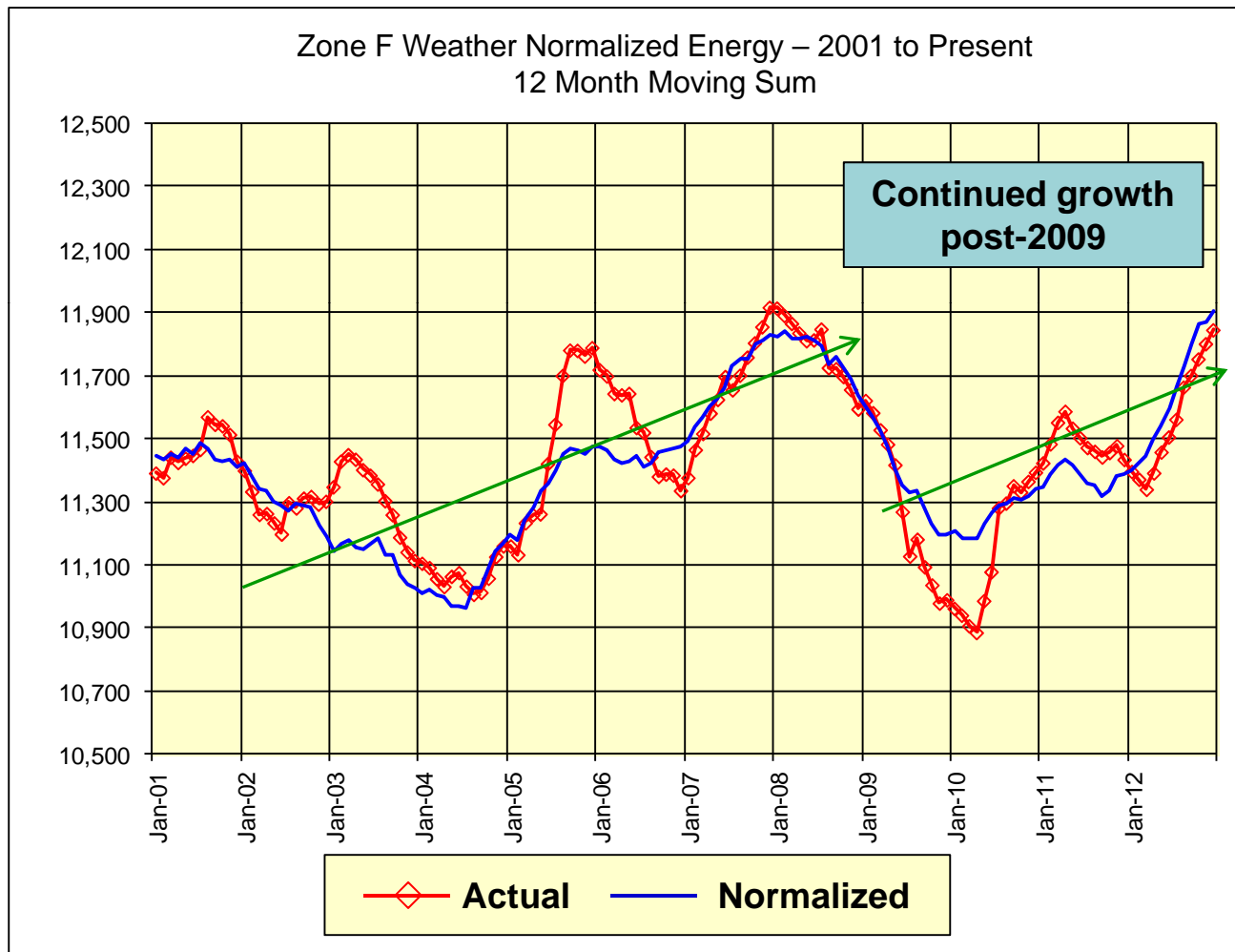


# Weather Normalized Energy: Zone E

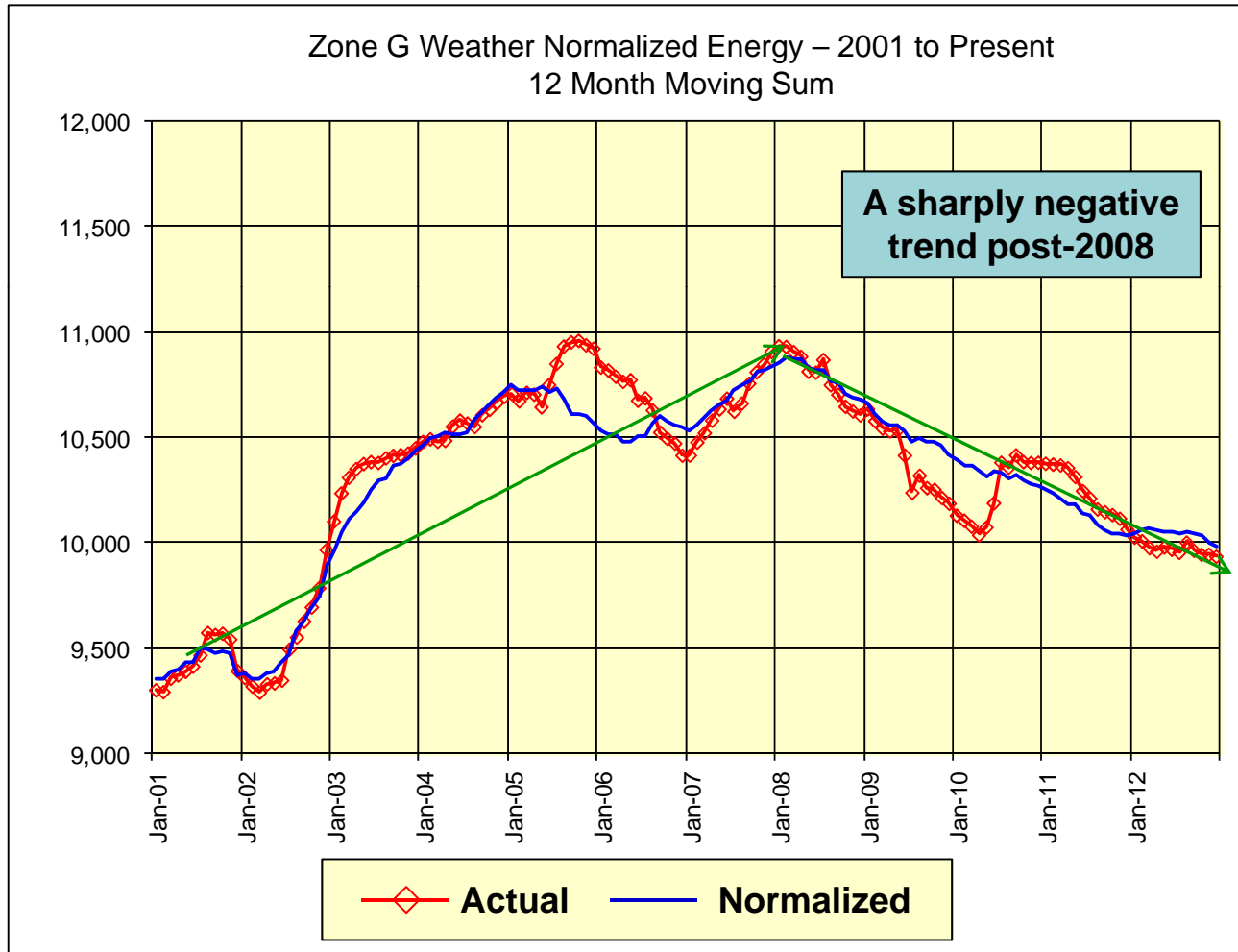




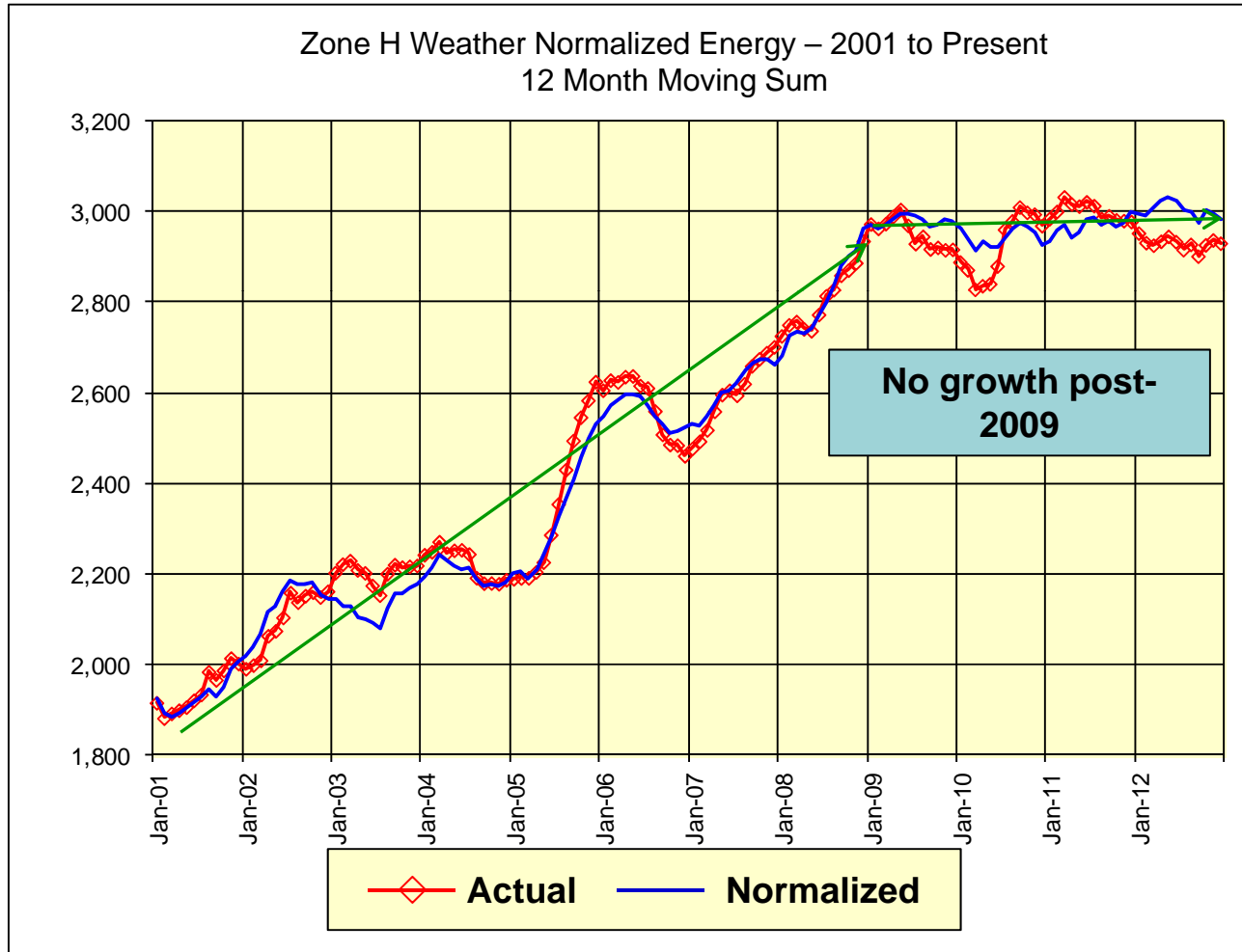
# Weather Normalized Energy: Zone F



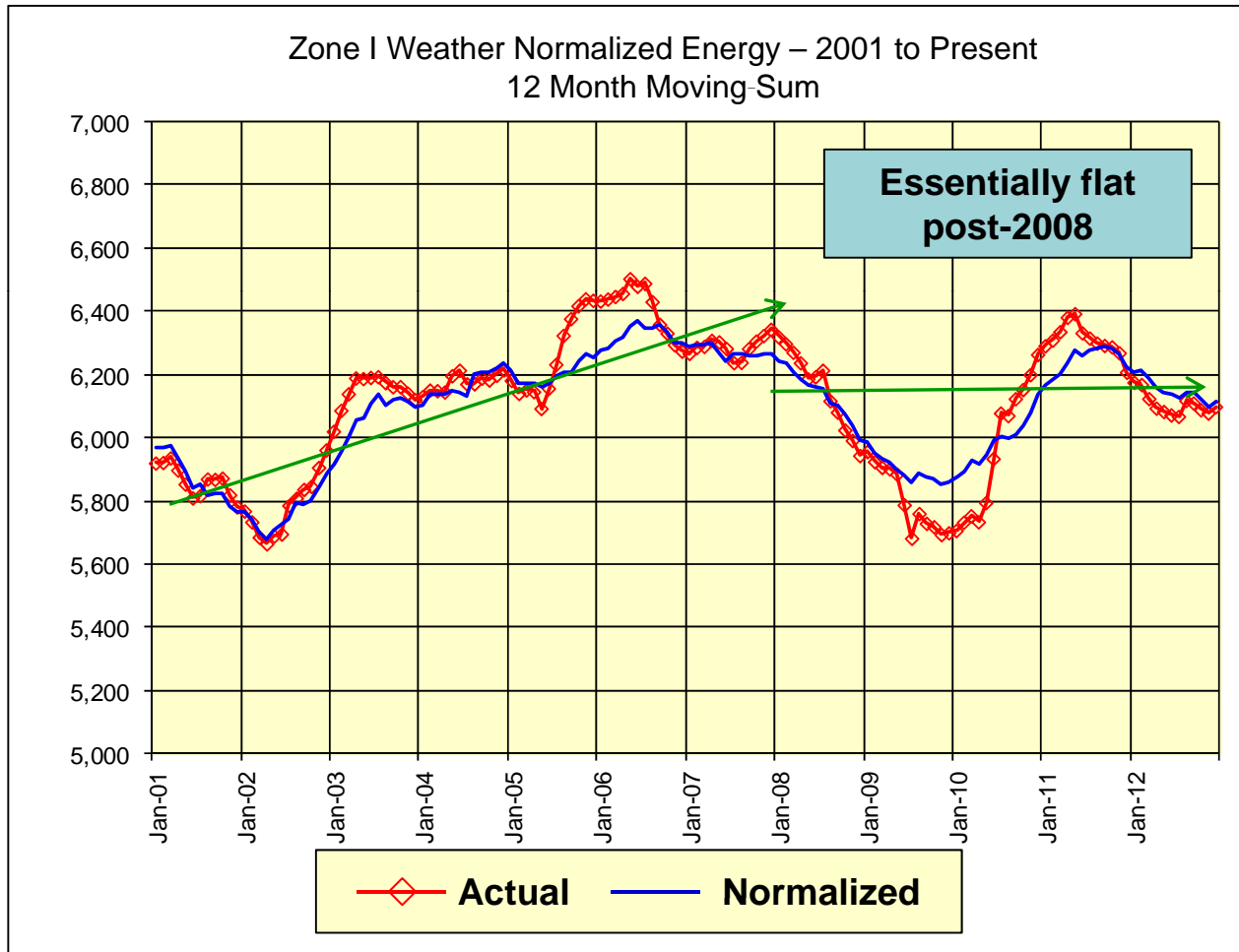
# Weather Normalized Energy: Zone G



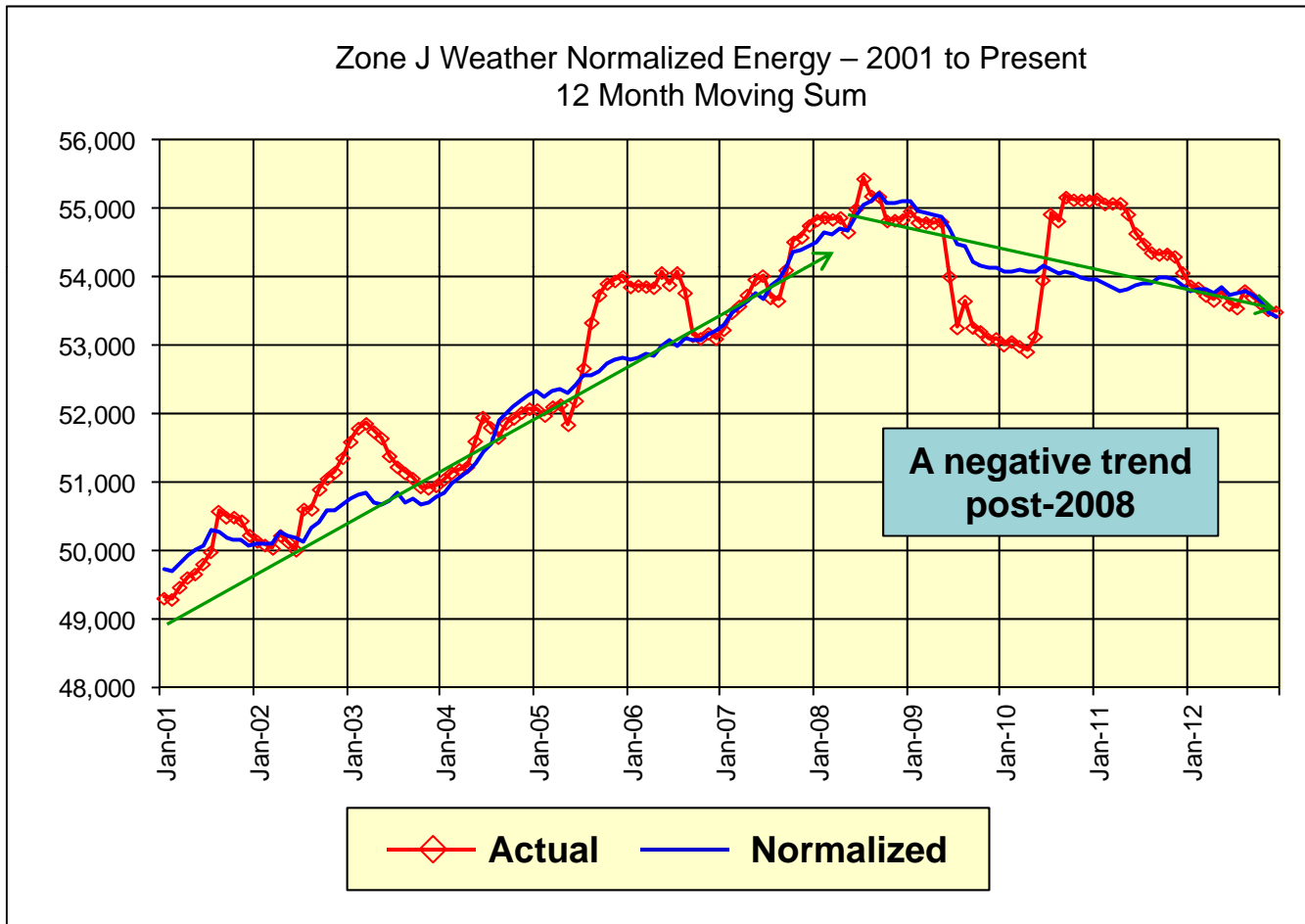
# Weather Normalized Energy: Zone H



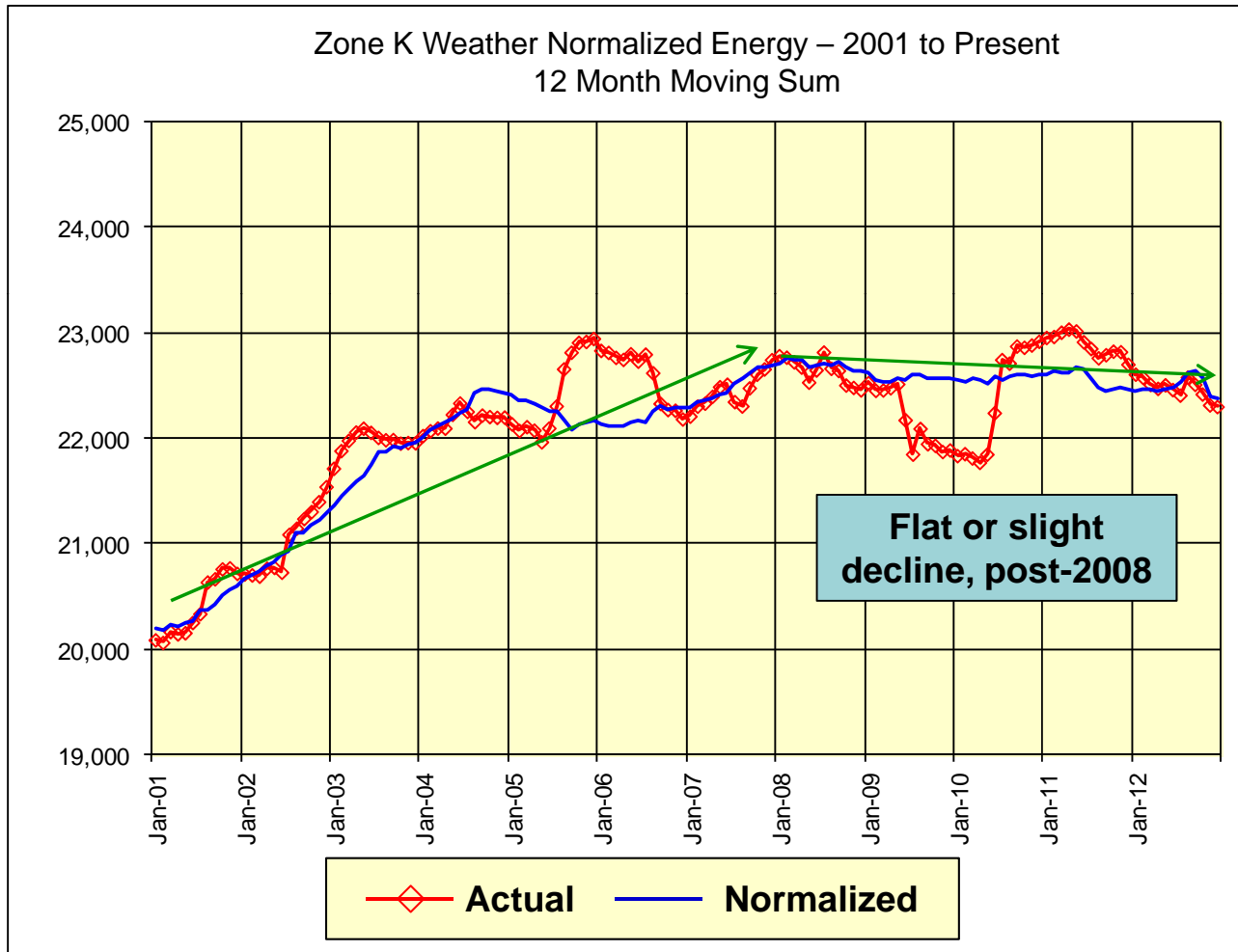
# Weather Normalized Energy: Zone I



# Weather Normalized Energy: Zone J



# Weather Normalized Energy: Zone K



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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