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November 7<sup>th</sup>, 2017

The Honorable Greg Walden and Fred Upton  
House Committee on Energy and Commerce  
Subcommittee on Energy and Power  
2125 Rayburn House Office Building  
Washington, D.C. 20515

**Subject:** Comment for Hearing on Discussion Draft, Energy Star Reform Act of 2017 and H.R. 3477, Ceiling Fan Energy Conservation Harmonization Act.

## Introduction

Spire Inc. (“Spire”) is a holding company with 3,300 employees providing natural gas to 1.7 million customers across Missouri, Alabama and Mississippi. Spire has previously submitted comments to this Committee for the following hearings

- June 10<sup>th</sup>, 2016: “[Home Appliance Energy Efficiency Standards Under the Department of Energy– Stakeholder Perspectives.](#)”
- September 14<sup>th</sup>, 2017: “[Powering America: Defining Reliability in a Transforming Electricity Industry.](#)”

## Comments

Spire’s comments herein only address ENERGY STAR. Spire agrees that ENERGY STAR could be moved out of EPA. However, Spire is very concerned that moving ENERGY STAR to DOE’s Office of Energy Efficiency & Renewable Energy (EERE) may work against the best interests of American energy consumers and President Trump’s [An America First Energy Plan](#).<sup>1</sup> A more appropriate home for ENERGY STAR would be in a less biased and more objective agency. EERE, through its self-stated “[global clean energy](#)” mission<sup>2</sup> is prejudiced against the direct use of natural gas. This prejudice against traditional natural gas-fueled appliances would likely be extended to ENERGY STAR if EERE was given control of it. A more consumer oriented agency, such as Federal Trade Commission (FTC), would be a better choice. However, before ENERGY STAR is transferred anywhere, its impediments described herein should be assessed and corrected.

EERE has further demonstrated its bias towards electricity, via “renewable” (wind and solar) energy, through its report titled “[Accounting Conventions for Non-Combustible Renewable Energy Use.](#)”<sup>3</sup> This report, published in October of last year is intended for use across EERE programs and was developed

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<sup>1</sup> <https://www.whitehouse.gov/america-first-energy>

<sup>2</sup> <https://energy.gov/eere/about-office-energy-efficiency-and-renewable-energy>

<sup>3</sup> <https://www.energy.gov/eere/analysis/downloads/accounting-methodology-source-energy-non-combustible-renewable-electricity>

outside of normal administrative procedures. This report bypassed public notification and comment processes; especially when considering ramifications have a potential economic impact of over \$100 million. Consequently, these proceedings should have been treated as a “major rule” and subject to the due process that all “major rules” require.

The core of the issue is summarized by the following conflicting positions:

**Renewable position:**

- a. The engineering conversion factor from 1 kWh to Btu is 3,412 Btu per kWh (assuming 100% conversion efficiency)
- b. Fossil-fueled electrical power generation is about 34% efficient; for a “heat rate” of roughly 10,000 Btu per kWh. (3,412/34%).
- c. Those supporting EERE’s new “accounting convention” argue that not enough credit is given for the increased role of “zero emissions” renewable energy entering the grid and that the number should be lower than 3,412 Btu per kWh. Per the report, NRDC, NRECA, EEI and APPA believe that renewable should be considered as 0 BTU per kWh.

**Non-renewable position:**

- a. “Zero emissions” renewable electricity generation requires backup and “spinning reserves” which is (generally) not renewable.
- b. The grid average heat rate is steadily improving and that trend is likely to continue; if coal plant closures continue and natural gas combined-cycle turbines take up the demand. However, the role of renewables in that improvement is (and should be) debatable and requires independent research; which means not by one of DOE’s National Labs.
- c. When all electrons are color coded and passed through an electron filter that only allows the “green” ones to get through, then and only then should there be a departure from source-based grid average “heat rates.”

For further information see:

Federal Energy Efficiency Mandates: DOE’s End Run vs. the Public Interest: [Part I](#) <sup>4</sup> & [Part II](#). <sup>5</sup>

The upshot of the EERE report is that they adopted the positions of the renewable/electric energy advocates by settling on metrics that ostensibly accounts for “captured energy.” The premise is “*that [captured energy] would decrease current estimates of source energy saved by 7.7% and would continue to decrease as RE [renewable energy] penetration increases in the future.*” The concept further establishes that energy efficiency metrics for electricity would decrease in predetermined values extending to at least 2040 based upon an assumption of rapidly increasing RE market share.

Whether the House Energy & Commerce Committee moves ENERGY STAR out of EPA, Spire urges the energy efficiency metric be standardized to that of “full fuel-cycle” energy. This metric is well-defined by the [ENERGY STAR for Commercial Buildings](#) Program <sup>6</sup> and [Portfolio Manager](#) <sup>7</sup> tool.

The diametrically opposing energy efficiency metrics of “site” versus “source” has been debated continuously ever since the 1975 passage of EPCA. A site-based energy efficiency won that struggle and

<sup>4</sup> <https://www.masterresource.org/conservationism/eere-end-run-i/>

<sup>5</sup> <https://www.masterresource.org/department-of-energy/eere-end-run-ii/>

<sup>6</sup> <https://www.energystar.gov/buildings/facility-owners-and-managers/existing-buildings/use-portfolio-manager/understand-metrics/difference>

<sup>7</sup> <https://www.energystar.gov/buildings/facility-owners-and-managers/existing-buildings/use-portfolio-manager>

remains in EPCA to this day. What this metric provides is a “head start” for electricity by limiting the scope to on-site (metered) energy in which electric resistance is considered 100% efficient (i.e., 3,412 Btu/kWh). For example, many energy efficiency programs call for reducing metered energy consumption by some percentage goal based on Btu per square foot. Such is the case for Section 433 of the [Energy Independence and Security Act of 2007](#)<sup>8</sup> titled “Federal building energy efficiency performance standards.” Within such programs, replacing gas hot water heaters with electric resistance can provide a 30% improvement of site-based energy efficiency. Conversely, on a source basis, switching from electric resistance to natural gas water heaters can result in nearly a 50% reduction in energy consumption.

This debate was eventually addressed by the National Academy of Sciences (NAS) per Section 1802 of the Energy Policy Act of 2005. This legislation required the DOE to commission NAS to study whether site-based or source-based energy measurements are more appropriate. On May 27, 2009, the NAS published its study titled [Review of Site \(Point-of-Use\) and Full-Fuel-Cycle Measurement Approaches to DOE/EERE Building Appliance Energy-Efficiency Standards](#).<sup>9</sup> The NAS recommended that DOE’s measurement of energy use should be based on full-fuel cycles, which takes into account the amount of energy losses from the fuel’s initial extraction, all the way through to the final point of use. By accounting for the full fuel-cycle, consumers are provided with more complete information on energy use and environmental impacts.

On July 22, 2009, the National Association of Regulatory Utility Commissioners (NARUC) Board of Directors adopted a resolution in support of the NAS recommendations.<sup>10</sup> ‘Full-fuel-cycle’ represents source energy (as currently defined in the ENERGY STAR for Commercial Buildings technical materials) plus losses during energy extraction. While energy extraction losses are less significant than losses attributable to power plant fuel-to-electricity conversion losses as well as downstream energy transportation & distribution losses, extraction losses are still significant and need to be accounted for.

Thus, continued and broadened use of source energy as defined by ENERGY STAR for Commercial Buildings (which is essentially equivalent to full fuel-cycle efficiency) would represent a significant improvement in Federal government energy policy and public understanding of overall efficiency than continued use of site energy (which is tantamount to professing beliefs that energy is somehow created inside of utility meters).

In the August 18<sup>th</sup>, 2011 Federal Register (Volume 76 Issue 160), the DOE announced a “[Statement of Policy](#)” (SOP) for implementing the NAS’s full fuel-cycle conclusions.<sup>11</sup> In this SOP, the DOE stated it “*intends to modify the methods it uses to estimate the likely impacts of energy conservation standards and will work to expand the energy use and emissions information made available to consumers.*” DOE further discussed how it intends use full-fuel-cycle energy and emissions impacts to refine its existing source energy-calculated impacts within its present framework of minimum efficiency standards for appliances.

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<sup>8</sup> <https://www.gpo.gov/fdsys/pkg/PLAW-110publ140/pdf/PLAW-110publ140.pdf>

<sup>9</sup> [http://books.nap.edu/openbook.php?record\\_id=12670&page=1](http://books.nap.edu/openbook.php?record_id=12670&page=1)

<sup>10</sup> <http://www.naruc.org/Resolutions/Resolution%20on%20NRC%20Energy%20Efficiency%20Standards.pdf>

<sup>11</sup> <http://www.gpo.gov/fdsys/pkg/FR-2011-08-18/pdf/2011-21078.pdf>

**DOE should not be allowed to renege on its previous commitments to use full-fuel-cycle metrics in order to advance back-door policies to implement “deep decarbonization” objectives of the “Paris Accords” (a.k.a., COP-21).**

Any action taken by Congress to update and reform ENERGY STAR should make clear that full fuel-cycle energy is the best metric to use. If renewable forms of electric generation do eventually come dominate, their impact will be objectively reflected in declining grid-averaged heat rates.

## 2. **Insure that previously identified problems within ENERGY STAR have been corrected**

Whether ENERGY STAR is moved out of EPA, to DOE or elsewhere, certain reforms should be prioritized in early rulemaking, to ensure the public’s concerns and technical issues are resolved in public forums and under APA procedures. Numerous reports and articles have been published by various entities regarding ENERGY STAR performance issues. These problems should be independently investigated to determine the extent that they are still problems. The following is a synopsis for your reference:

- a. [Get Ready For Stricter Energy Star Enforcement](#)<sup>12</sup>  
A key response to deficiencies in ENERGY STAR performance verification was requirements for third party testing. A companion recommendation for legislative reform might be adoption of requirements of third party analysis of energy savings and competitive impacts.
- b. [Covert Testing Shows the Energy Star Program Certification Process Is Vulnerable to Fraud and Abuse](#)<sup>13</sup>  
The above GAO report raises the issue of potential violations of the federal “False Statements Act” (Title 18, USC Section 1001), which may raise an issue of needed reform to avoid false claims associated with inaccurate energy cost savings, missing installation costs additions, and even incomplete energy savings estimates when associated only with site-based energy savings accounting.
- c. [No star for Energy Star](#)<sup>14</sup>  
Subtitled: **“Appliance makers that place this label on their products have very little oversight”**  
Essentially, the above is media coverage of the previously cited GAO investigation.
- d. [Energy Star Climate Change Claims Misleading, Audit Finds](#)<sup>15</sup>  
The above article raises issues of how ENERGY STAR accounts for greenhouse gas reductions and calls for consistency of calculation methods. This, plus the need for transparency and linking energy savings to greenhouse gases through source energy savings calculations, supports our proposal for a change in energy metrics to source energy.
- e. [Report: Improvements Needed to Validate Reported ENERGY STAR Benefits](#)<sup>16</sup>  
The above report from EPA’s Office of Inspector General (OIG) “found the ENERGY STAR

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<sup>12</sup> <https://www.law360.com/articles/459869/get-ready-for-stricter-energy-star-enforcement>

<sup>13</sup> <http://www.gao.gov/new.items/d10470.pdf>

<sup>14</sup> <https://lasvegassun.com/news/2009/oct/21/no-star-energy-star/>

<sup>15</sup> [http://www.nbcwashington.com/news/green/Energy\\_Star\\_Climate\\_Change\\_Claims\\_Misleading\\_Audit\\_Finds.html](http://www.nbcwashington.com/news/green/Energy_Star_Climate_Change_Claims_Misleading_Audit_Finds.html)

<sup>16</sup> <https://www.epa.gov/office-inspector-general/report-improvements-needed-validate-reported-energy-star-benefits>

program's reported savings claims were inaccurate.

- f. [ENERGY STAR Label Needs to Assure Superior Energy Conservation Performance](#)<sup>17</sup>  
Finally attached is the EPA's "Corrective Actions Plan" for ENERGY STAR in response to the just cited OIG report.

Spire is concerned that the problems identified in the above references may still linger. For example, EPA's response in February 2011 to the EPA Office of the Inspector General (OIG) for EPA's "Corrective Action Plan" was to address two recommendations:

- **“Recommendation 1:** Develop a strategic vision and program design that assures that the ENERGY STAR label represents superior energy conservation performance.”
- **“Recommendation 2:** Develop a set of goals and valid and reliable measures that can accurately inform shareholders and the public benefits of the program.”

In neither case, did EPA provide adequate replies to these recommendations, instead focusing on EPA/DOE continuing coordination of ongoing program efforts, status of those efforts, and by other *non sequitur* statements. These recommendations should be revisited if a comprehensive reform of the ENERGY STAR program is to be implemented. Spire's recommendations under "Process and procedural improvements," shown below, represents a first attempt of the gas utility industry to address the OIG recommendations in a more direct manner. Spire hopes that these recommendations can initiate further discussions to support legislative and program reforms.

Accordingly, Spire suggests that legislative efforts focused on ENERGY STAR and/or DOE "restructuring" should independently address the extent that these issues have or have not been effectively corrected; noting the EERE and DOE labs should not be considered as independent.

### 3. Process and Procedural improvements to ENERGY STAR

Many of the shortcomings of the ENERGY STAR program are the result of process and procedural deficiencies of the program as (mis)implemented by DOE and/or EPA. These issues have been raised by various stakeholders over the years in public comments on ENERGY STAR proposed criteria. Some of these deficiencies may be addressed by logical and straight-forward modifications to current activities as suggested below:

- a. ENERGY STAR can be improved by providing to the public quarterly reporting of product sales and market share penetration by product and end use fuel type. To date, ENERGY STAR has not been sufficiently documented in detailed data on appliances, equipment, and buildings holding the ENERGY STAR mark. From an energy supplier perspective, lack of data on product end use fuel type represents a critical shortcoming in understanding the impacts of ENERGY STAR. For example, a prior year FOIA request for ENERGY STAR Homes market penetration by fuel type showed that the program did not maintain details sufficient to provide this information. This situation can be easily remedied by

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<sup>17</sup> [ENERGY STAR Label Needs to Assure Superior Energy Conservation Performance](#)

implementation of more detailed reporting requirements for ENERGY STAR-certified manufacturers and builders and compilation of quarterly reports.

- b. The value to consumers of the ENERGY STAR label can be further enhanced by providing estimates of product costs, as delivered for retail sale, and energy cost savings over baseline model or building costs. For products, Federal minimum efficiency or other baseline performance, such as FTC label ranges of operating cost performance, can be quoted to illustrate to consumers the potential savings that might accrue from purchase of ENERGY STAR appliances, equipment, and homes. For building energy efficiency and cost, rated performance compared to baseline model energy code performance can be used for operating cost. However, missing from FTC labels and other sources of consumer cost performance are estimates of installed product costs. These costs are needed by consumers to evaluate the value proposition of ENERGY STAR rated products relative to other products providing the same utility (when compared to operation cost savings) and pricing of ENERGY STAR products.
- c. In following with the recommendations above, consumers should have product cost information (i.e., beyond pricing) to make purchase decisions on ENERGY STAR rated products. Operating cost savings and product costs can be delivered through data linked to UPC barcode or QR matrix bar code, alleviating the need to develop complex documentation or physical labels. Of course, developing these estimates imposes additional burdens upon the ENERGY STAR program to conduct additional cost analysis to generate this consumer information. However, it is incumbent upon ENERGY STAR, as a program intended to serve the interests of consumers, to disseminate reliable cost information. In the case of products covered by Federal minimum efficiency standards, delivered product cost information is regularly calculated during rulemaking on revisions of minimum efficiency standards.
- d. To help ensure a level playing field for ENERGY STAR products, clear quantitative criteria for energy and market performance should be codified. Among the criteria requiring firmer definition include:
  - i. A threshold energy performance improvement over baseline models (calculated on a source energy basis),
  - ii. An energy performance improvement threshold over products using comparisons across competing end use fuels.
  - iii. A threshold range (maximum and minimum) for current market penetration, a product availability test (and avoidance of ENERGY STAR labels for unavailable products or R&D concepts).
- e. To maintain transparency in implementing consistent energy and cost performance criteria for ENERGY STAR products and homes, DOE and EPA should implement public workshops and a rulemaking solely addressing proposed criteria covering these products and buildings. Consistency of criteria will provide consumers with greater confidence in the ENERGY STAR label. To date, the experience with the use and public review of ENERGY STAR criteria across products has demonstrated an *ad hoc* and inconsistent approach to setting or

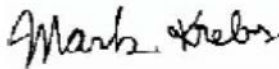
revising criteria. The approach ENERGY STAR uses is invariably influenced by objectives other than consistency or saving energy and potentially. These distortions include the unwritten objective of maximizing the market penetration of the ENERGY STAR label. These distortions can be substantially reduced by promulgating consistent energy and cost performance criteria.

- f. In the setting of ENERGY STAR criteria, analysis of installation costs and the need to minimize ancillary installation cost should be performed. Additionally, and where criteria might incentivize a switch in end use fuel in providing the same consumer utility, a test of energy supplier neutrality of the criteria ought to be performed. Specific mechanisms for evaluating installation cost “adders” and energy supply neutrality tests should be developed through formal rulemaking involving workshops prior to proposal of formal procedures. Consumers need protection from the setting of ENERGY STAR criteria that might penalize the use of end use fuels already employed in installed products and when consumers are incentivized to install ENERGY STAR products providing the same consumer utility. Penalties of this type may arise from installation costs beyond the product costs themselves and include costs such as electrical system modifications, combustion appliance venting system changes, and other installation costs.

To put it forthrightly, the economic value proposition from ENERGY STAR rated products depends upon the objectives of a given stakeholder. There is employment value to bureaucrats who manage ENERGY STAR. There is marketing value to manufacturers of ENERGY STAR rated products, who can charge a premium for such products. And there is promotional value for “energy efficiency” advocates. But what’s in it for consumers is debatable. In many cases, cost premiums charged for ENERGY STAR rated products results in unattractive consume paybacks. This is problem is even more evident if “[consumer marginal energy rates](#)”<sup>18</sup> are employed correctly. Again, an independent evaluation of these issues would be appropriate to insure the best interests of consumers are served under the ENERGY STAR brand.

This concludes Spire’s comments for today’s hearing. In case there are any questions regarding these comments, please direct such inquiries to me.

Sincerely,



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Copy: Rep, William Long, Ben Lieberman, Peter Spencer,

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<sup>18</sup> [https://energy.gov/sites/prod/files/2013/12/f5/marg\\_eprice\\_0799.pdf](https://energy.gov/sites/prod/files/2013/12/f5/marg_eprice_0799.pdf)