

# MARKET TRANSFORMATION: FROM INCIDENTAL TO INTENTIONAL

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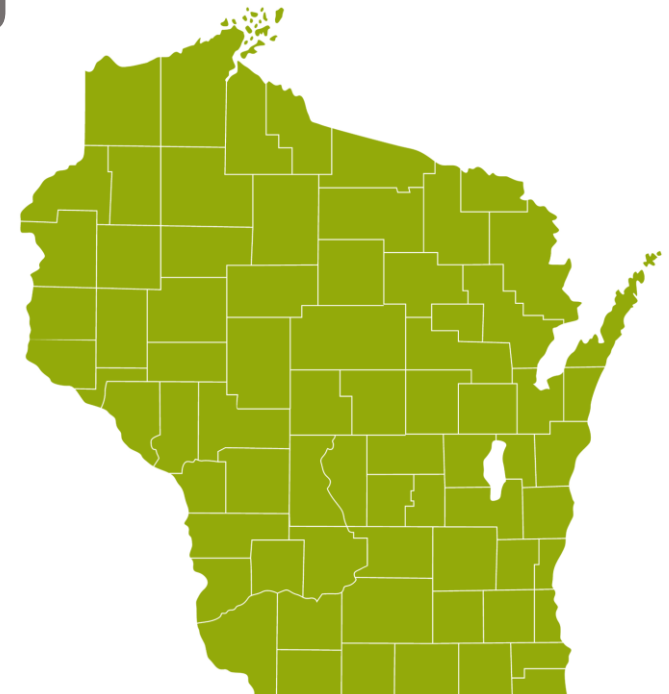
Strategic Initiatives Manager

Focus on Energy



## Wisconsin utilities' statewide energy efficiency and renewable energy program

- Helps Wisconsin residents and businesses manage rising energy costs.
- Provides education, information, and incentives.
- Promotes in-state economic development.
- Protects our environment.
- Moderates Wisconsin's growing demand for electricity and natural gas.



# MISSION STATEMENT



**Focus on Energy**  
**empowers the people and businesses of Wisconsin**  
**to make smart energy decisions**  
**with enduring economic benefits.**

# EXCERPTS FROM STATE STATUTE<sup>a</sup>

- Address the needs of those facing the most significant barriers to participating in energy efficiency and renewable resource products and services
- Implement programs that:
  - Facilitate energy efficiency and renewable resource market development
  - Help market providers achieve higher levels of energy efficiency

<sup>a</sup> Wis. Admin. Code § PSC 137.05(5), Wis. Admin. Code § PSC 137.05(11), Wis. Admin. Code 196.374(2)(a)2.c



# A NEW APPROACH



- Quadrennial Planning Process IV
- Balance between Resource Acquisition and Market Transformation

“...the Commission finds it reasonable for Focus to continue emphasizing near-term savings but should **increase the program’s emphasis on long-term market transformation** by identifying ways to adapt Focus’ existing portfolio to achieve long-term market effects and develop strategies to support this direction.”<sup>a</sup>

<sup>a</sup> Public Service Commission of Wisconsin. November 14, 2022. Quadrennial Planning Process IV – Final Decision. PSC Docket 5-FE-104, PSC REF#: 453081.

<https://apps.psc.wi.gov/ERF/ERFview/viewdoc.aspx?docid=453081>

# PAST QUAD DECISIONS



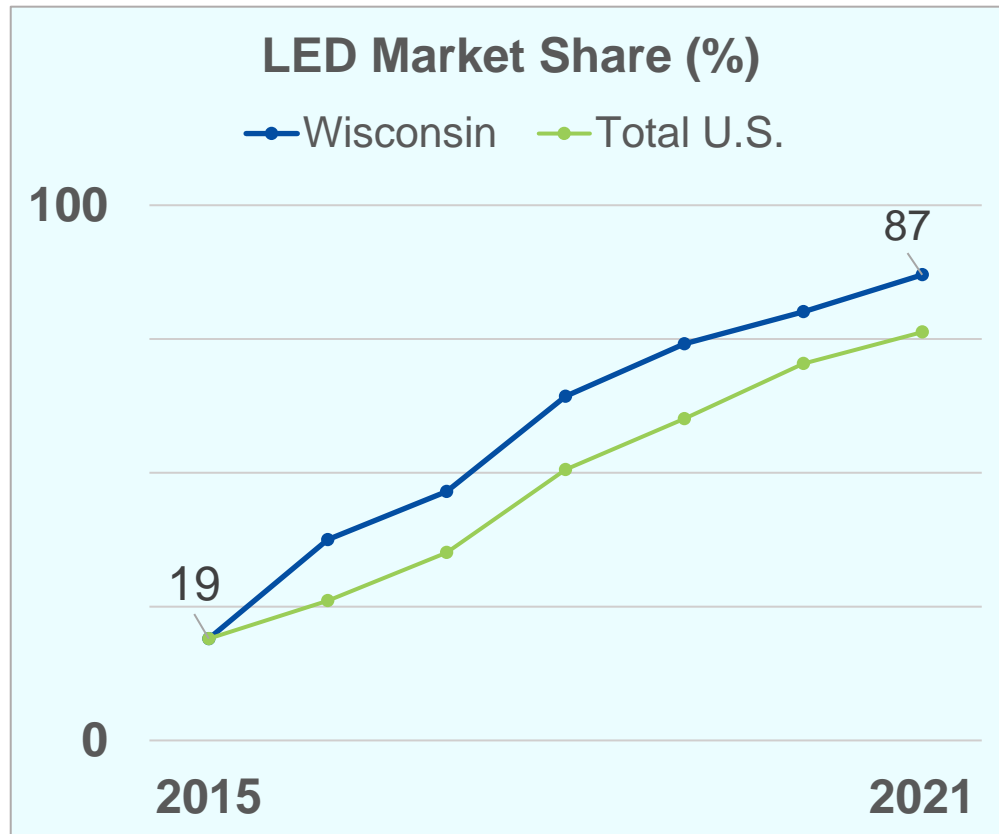
- Quadrennial Planning Process II and III
- Summary
  - Focus goals should continue emphasizing resource acquisition / short-term energy savings
  - Also, important to consider Focus' affect on energy efficiency and renewable energy product markets
  - Qualitative targets for long-term market effects should be set for the quad
  - Prioritize program designs that achieve short-term savings while targeting longer-term market changes

# RESULTS OF PAST EMPHASIS



- Intentional resource acquisition achievement
  - 111% of Quad II verified gross lifecycle energy savings goal
  - Quad II Total Resource Cost = 3.62; 2021 TRC = 2.35
  - Success with non-energy goals – customer satisfaction, participation
- Incidental market transformation
  - Residential lighting
  - Residential new construction
  - Midstream – Commercial Kitchen Equipment, Ductless Heat Pumps
  - Natural gas furnaces

# MARKET EFFECTS: LIGHTING

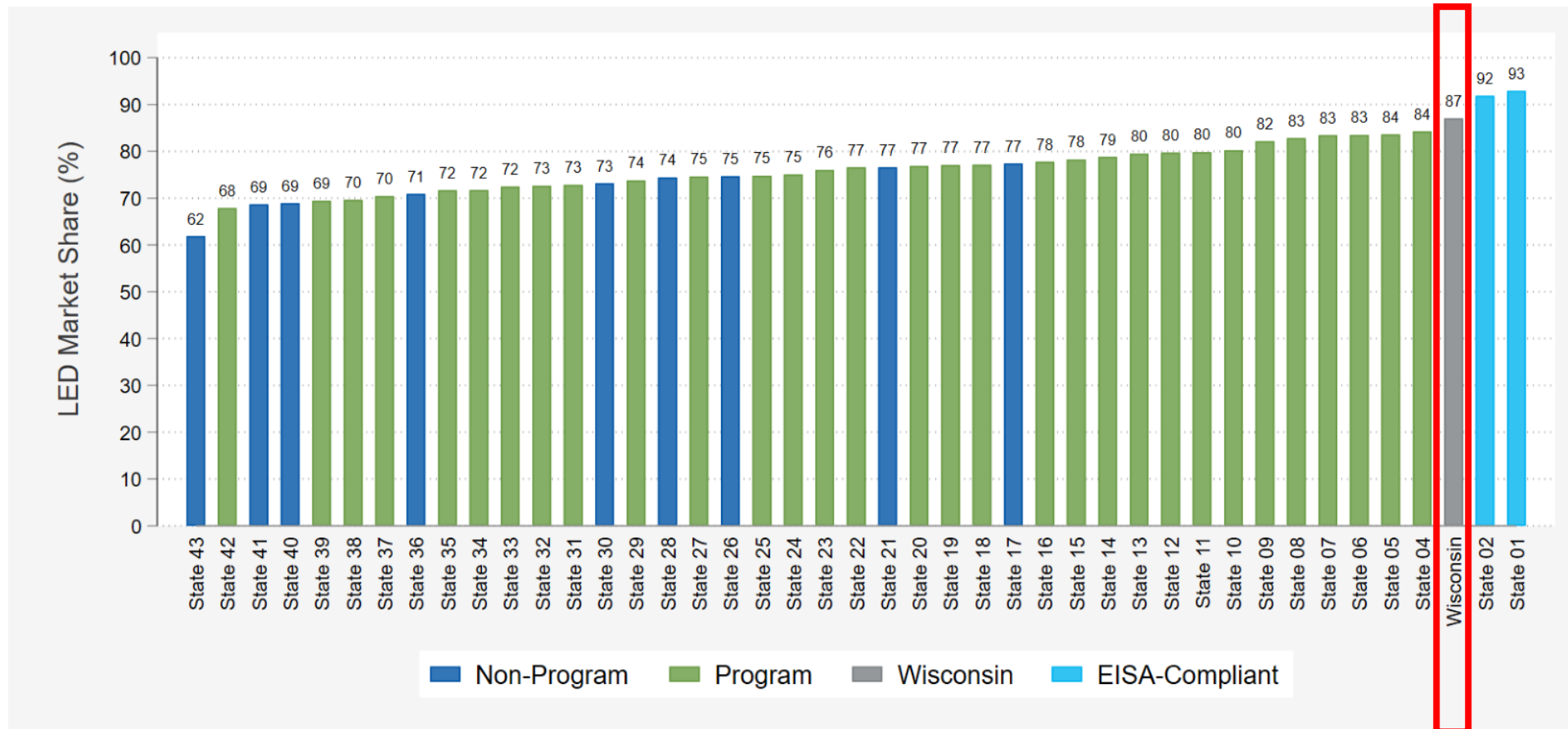


- Lighting net-to-gross (NTG) method shift in 2017 to a national lighting sales model
- Verified net lighting savings (Lifecycle GWh), 2015-2018
  - Without market effects: 4,981
  - With market effects: 6,914
  - Market effects savings: 1,933



# MARKET EFFECTS: LIGHTING

## LED Sales Distribution Across States, 2021



# MARKET EFFECTS: NEW HOMES

- Evaluator recommended calculating market effects for Quad III
- Analysis completed in 2020
  - Market effects savings for 2019-2022 to be applied in the 2022 Evaluation Report
- Concurrent research revealed a (still unclear) proximity effect



# MARKET EFFECTS: MIDSTREAM



- NTG methodology uses causal pathways
- Surveys with end-users, contractors, and distributors 2020-2022
- Delphi panels convened in 2022
- Market effects savings for commercial kitchen equipment and ductless heat pumps to be applied over Quad III

# MARKET EFFECTS: NG FURNACES

- Long history of natural gas furnace market transformation in Wisconsin<sup>a</sup>
  - High-efficiency NG furnaces, 1980s-90s
  - Utility low-income weatherization programs helped push sales penetration to 90%

<sup>a</sup> Kushler, M., Schlegel, J., & Prah, R. (1996). A Tale of Two States: A Case Study Analysis of the Effects of Market Transformation. In M. Modera and D. Shankle (Chairs), *1996 ACEEE Summer Study on Energy Efficiency in Buildings*.

[https://www.aceee.org/files/proceedings/1996/data/papers/SS96\\_Panel3\\_Paper08.pdf](https://www.aceee.org/files/proceedings/1996/data/papers/SS96_Panel3_Paper08.pdf)





# MARKET EFFECTS: NG FURNACES

- Current interest in assessing market effects in NTG
  - Sales data shows WI AFUE leads neighbors<sup>a,b</sup>
  - Wisconsin only: 94.36
  - Minnesota/Michigan: 91.76

<sup>a</sup> AFUE: Annual Fuel Utilization Efficiency

<sup>b</sup> Data obtained from a 2019 HVAC sales data report prepared by D+R International in December 2020. Reuse is prohibited without permission.



# QUAD IV DIRECTION



- Identify ways to adapt existing portfolio to achieve market effects
  - Build on aforementioned examples
- Evaluator will report on progress toward adapting the portfolio
- Evaluator will assess Focus' market transformation potential
  - ID existing and emerging markets and technologies best suited for intervention
  - Theories of change for select markets
  - Potential short-/mid-/long-term market outcomes
  - Market performance indicators

# POTENTIAL CHALLENGES



- Funding the costs
  - Initial and sustained investment
  - Aligning costs/benefits within the quad
- Evaluation, Measurement, and Verification
  - Data collection
  - Unique product markets and market actors
  - Program attribution
- Shift in mindset
  - Expanding beyond resource acquisition
  - Incentives moving upstream



# PATH FORWARD



- Operational planning in-progress
- Quad IV
  - Intentionality – designing programs for long-term market transformation
  - Accountability – tracking and reporting progress
  - Sustainability – establishing a foundation for success
- Beyond Quad IV
  - Setting up for Quad V planning
  - Developing a market transformation portfolio



# ACKNOWLEDGEMENTS



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