

White Tags®
energy efficiency
certificates



**STERLING
PLANET**

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White Tags®

Energy Efficiency Certificates

*An Innovative Way to Promote Energy Conservation,
Manage Demand for Electricity and Mitigate Carbon Dioxide*

Michigan Public Service Commission

Design and Implementation Work Group

November 16, 2010

Alden Hathaway

Bill Orr

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Company Profile

Our Mission

Inspired by what the world can be, Sterling Planet is improving lives today while working to sustain Earth for future generations.

An Introduction

- White Tags® innovator and market maker
- First nationwide retail REC provider (since 2000)
 - U.S. DOE Renewable Energy Marketer of the Year, 2007 and 2008
 - Cumulative sales exceed 32.5 billion kWh
- Supplier of verified carbon offsets from projects worldwide
- Developer of renewable energy, energy efficiency and carbon projects, with more than \$964 million in pipeline
- Partner to 120 utilities

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Sample Clients

123 utilities nationwide, including:



1,844 companies, including many of the top 25 purchasers:



64 colleges and universities nationwide:



242 federal and state government contracts:



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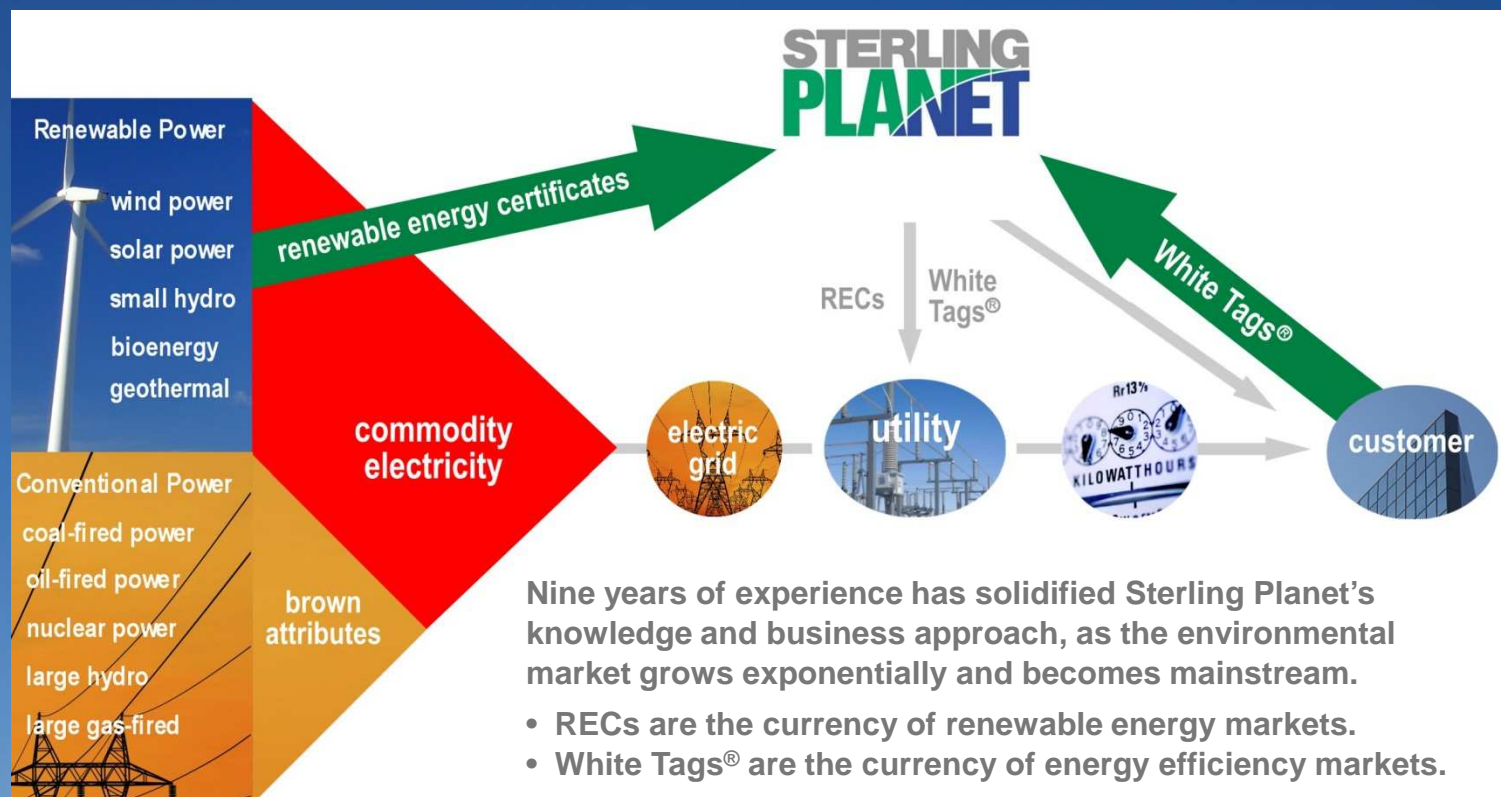


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Energy Certificates - Business Model



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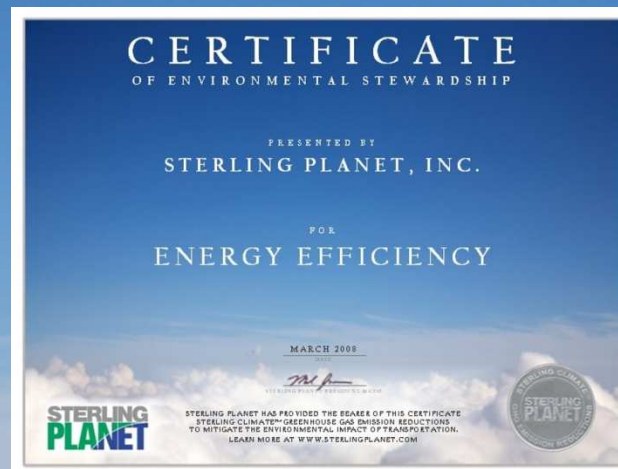
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What are White Tags[®]?

- A new tradable attribute similar to renewable energy certificates
- Also known as energy efficiency certificates and white certificates
- Represents the value of energy not used or conserved
- Each MWh conserved = 1 White Tag[®]
- Created through energy conservation or demand-side management
- Can be recorded in real-time for demand response
- Benefits go beyond efficiency to creation of new revenue stream



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Definition



ERT-Winrock
Uniform National Standard for
EcoPower® Electricity Savings
Certificates



A transferable commodity, sold separately from electricity (ie., unbundled) or equipment, but representing the unique and exclusive proof of the avoided use of one megawatt hour (MWH) of electricity which would otherwise have been used, due to the implementation of an electricity saving measure or measures consistent with the requirements of this standard.

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White Tags[®] and RECs Comparison

Supply Side



**1 REC = 1 MWh
of renewable energy**

Demand Side



**1 White Tag[®] = 1 MWh
of energy savings**

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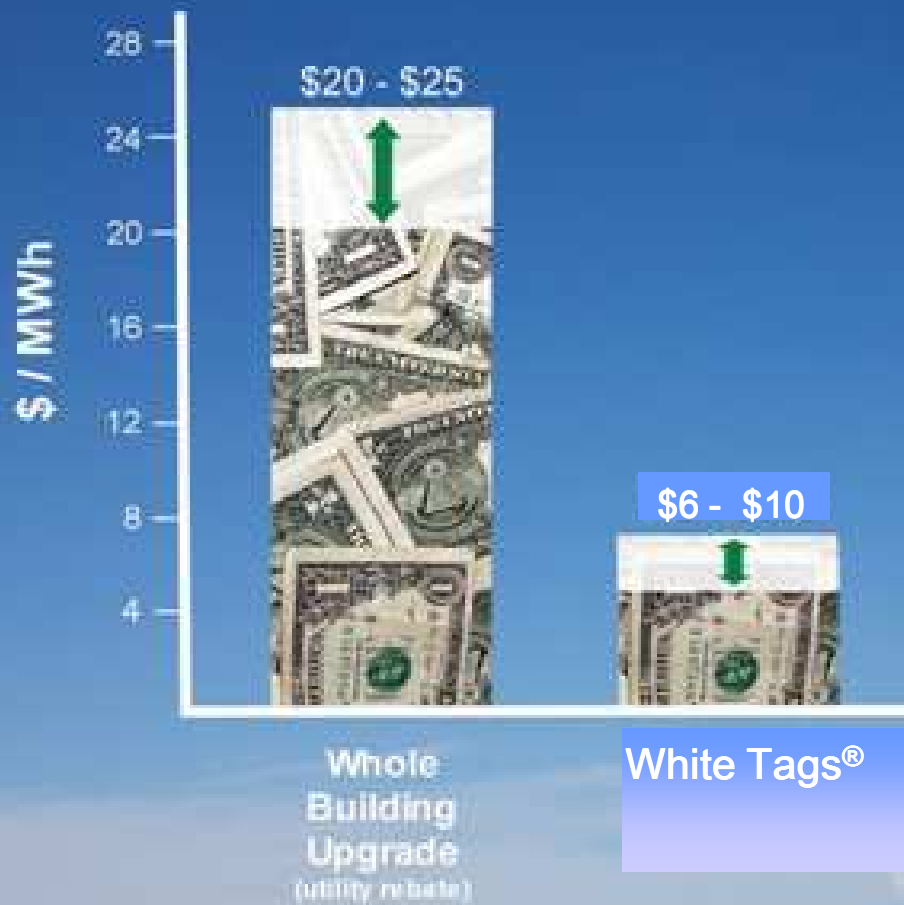
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Cost Comparison



*assumes 20% never used, break or burn out early

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Discussion Topics

White Tags®, an innovative way to:

- Promote energy conservation
- Manage demand for electricity
- Mitigate carbon dioxide emissions

Also:

- Status of White Tags® market
- Innovative White Tags® services

less is more

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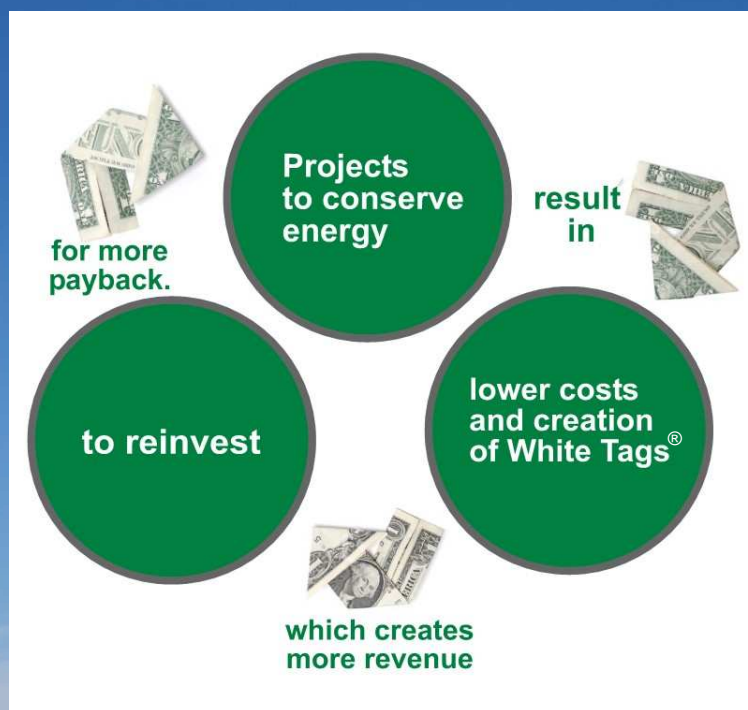
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White Tags[®] Creation

Projects to increase energy efficiency can create White Tags[®]. This means new revenue – and an opportunity to reinvest and achieve even greater energy efficiency.



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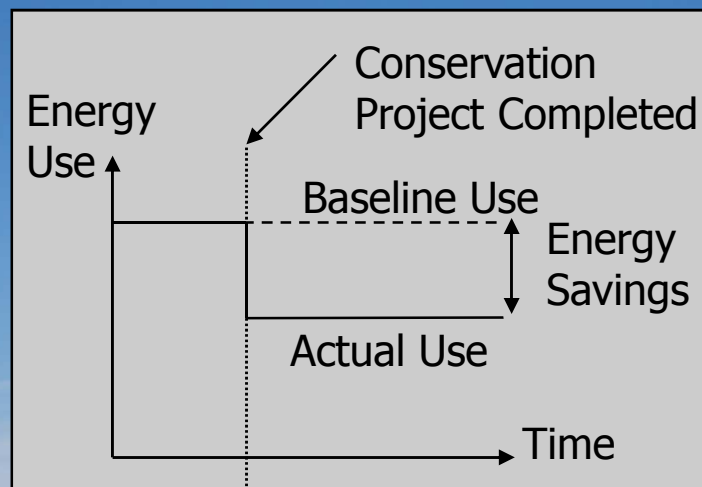
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Energy Efficiency Projects

Some project examples:

- Equipment upgrades, retrofits and component replacements
- Operational modifications and set-point changes
- Energy management and monitoring systems
- Combined heat and power (CHP) or cogeneration
- New technologies (such as high-efficiency lighting)



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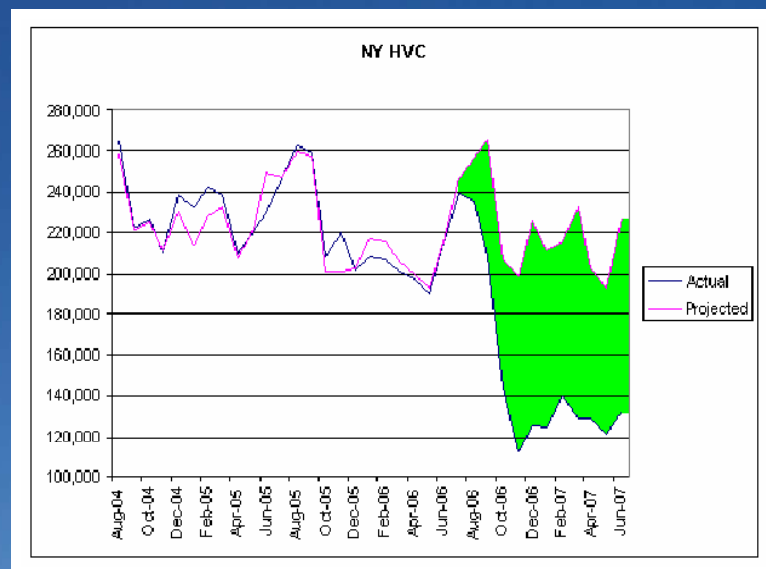
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Case in Point



Automotive Company

**Implementation Period:
227,130 kWh Conserved**

**Post-Project Period:
605,976 kWh Conserved**

**Total Savings:
833,106 kWh (833 White Tags[®])**

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Three Kinds of White Tags®

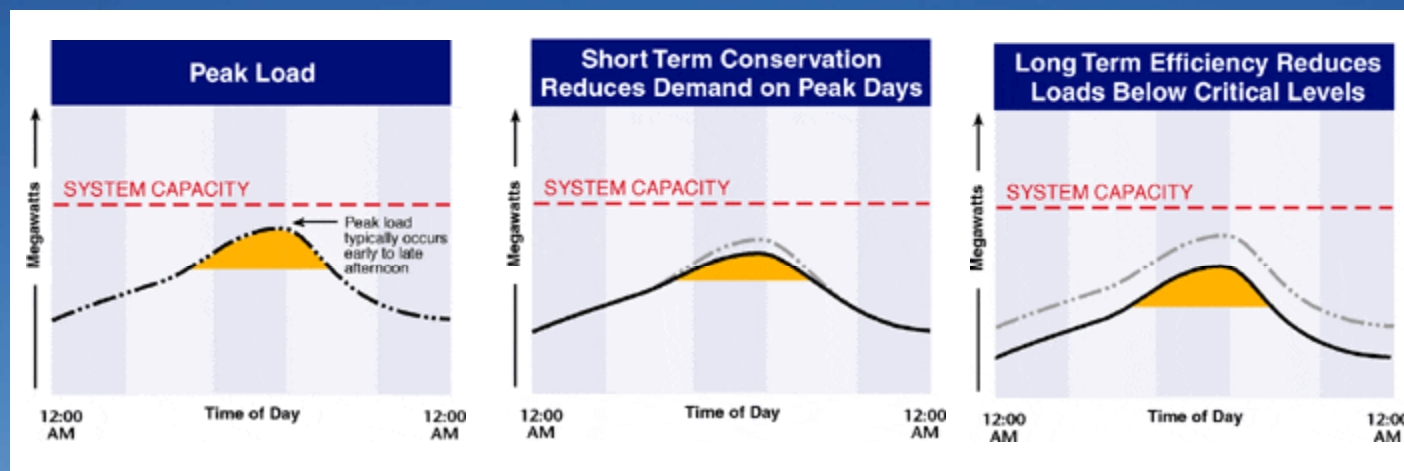
- 1) Standard (non Peak) White Tags® : Off-Peak or non-time-specific White Tags®
- 2) On Demand White Tags® : Time-stamped White Tags® for 4 or 5 hour daily peak demand period.
- 3) Super Peak White Tags® : Time-stamped White Tags® for single peak hour from utilities critical peak and relative peaks.

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Demand-Side Management

Long-term investments in energy efficiency reduce overall electricity demand below critical levels. Short-term conservation measures or emergency cutbacks reduce peak load at specific times only.



White Tags[®] encourage long-term investments in energy efficiency.



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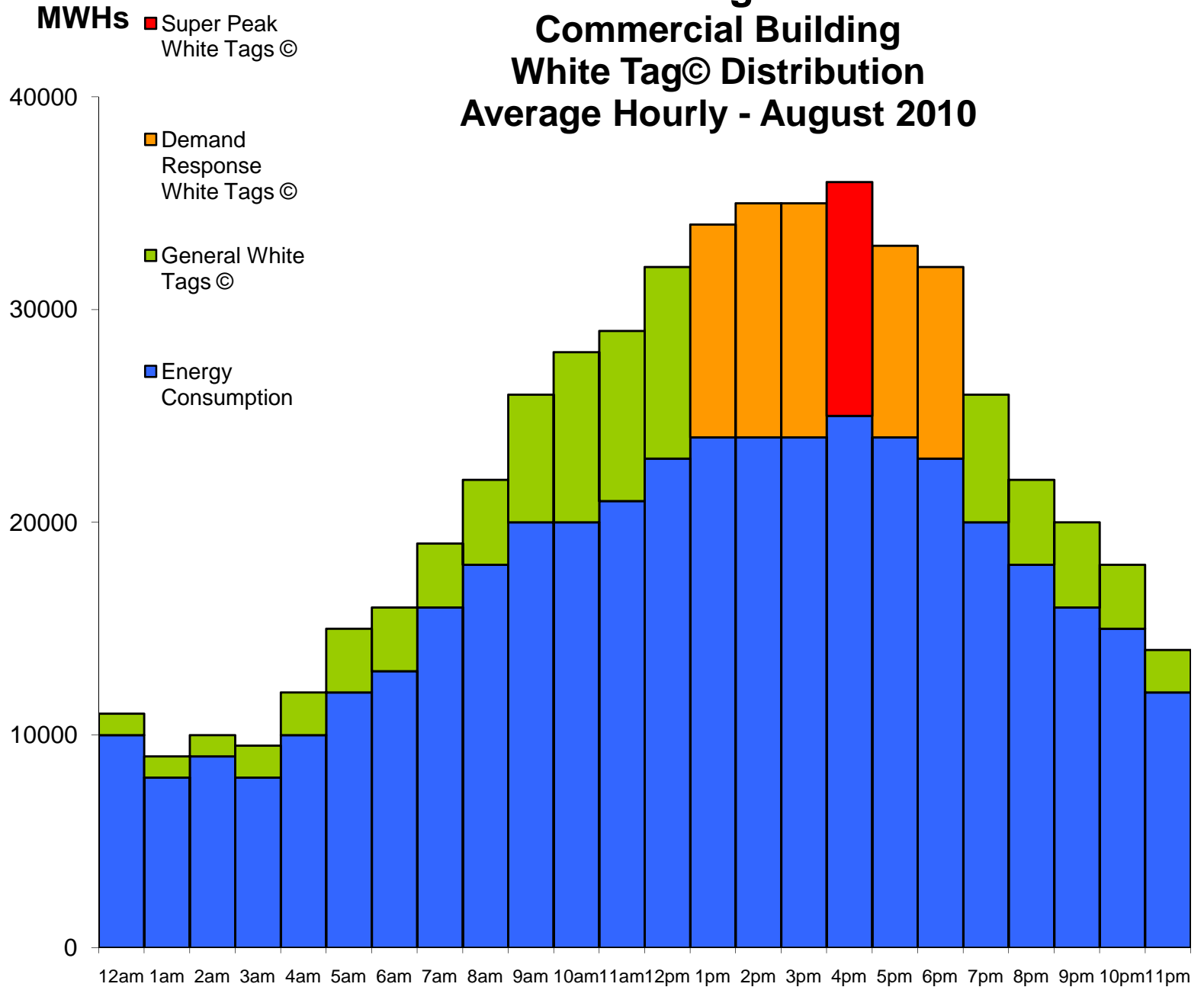
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White Tag Pro © Commercial Building White Tag© Distribution Average Hourly - August 2010



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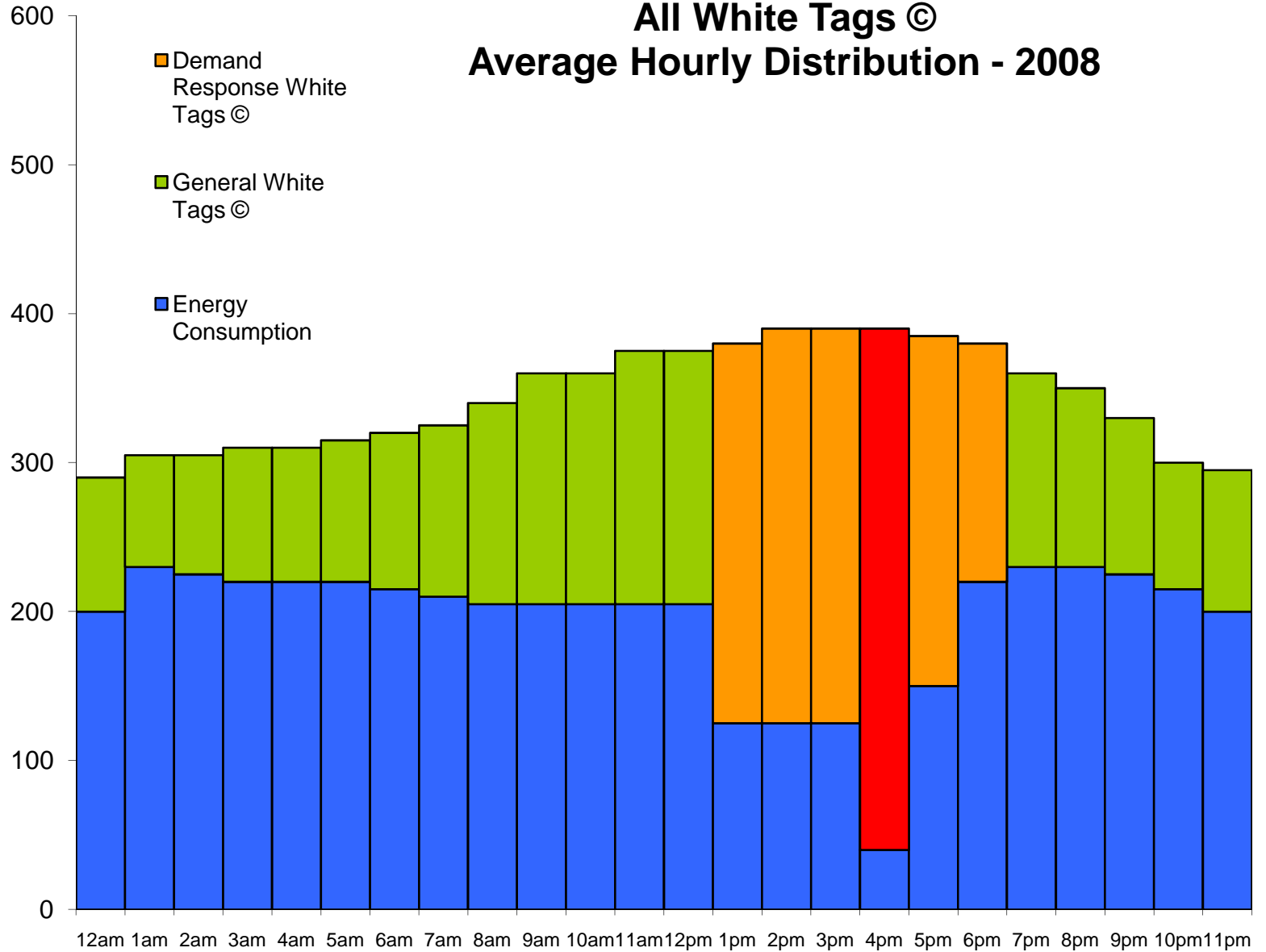
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MWHs

- Super Peak White Tags ©
- Demand Response White Tags ©
- General White Tags ©
- Energy Consumption

White Tag Pro © Industrial with Energy Storage All White Tags © Average Hourly Distribution - 2008



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less is more

A photograph of a green hill under a blue sky with white clouds. The text "less is more" is overlaid in a green, bold, sans-serif font.

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White Tags® and Carbon

Energy efficiency is effective in reducing greenhouse gas emissions. White Tags® may also be used as carbon offsets if the energy savings represented are permanent, not a temporary DSM strategy.



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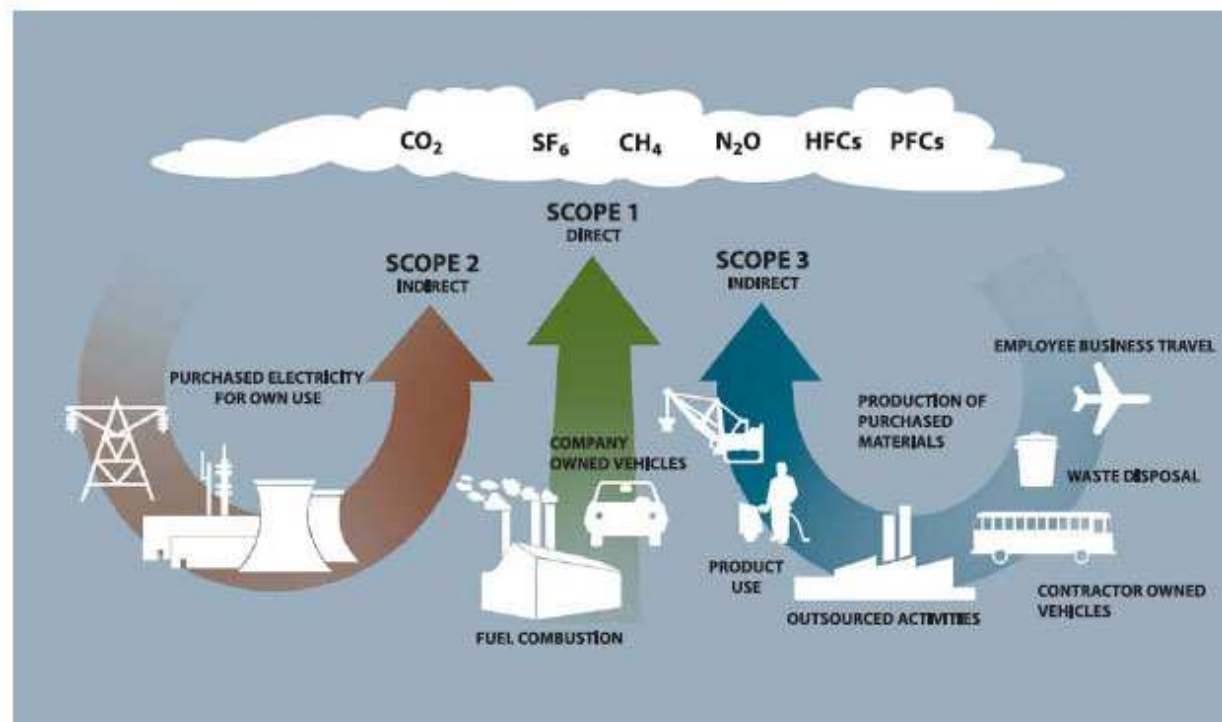
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Operational Boundaries

RECs, White Tags® and Carbon Offsets

FIGURE 5 | OPERATIONAL BOUNDARIES



Source: New Zealand Business Council for Sustainable Development.

WRI Greenhouse Gas Protocol

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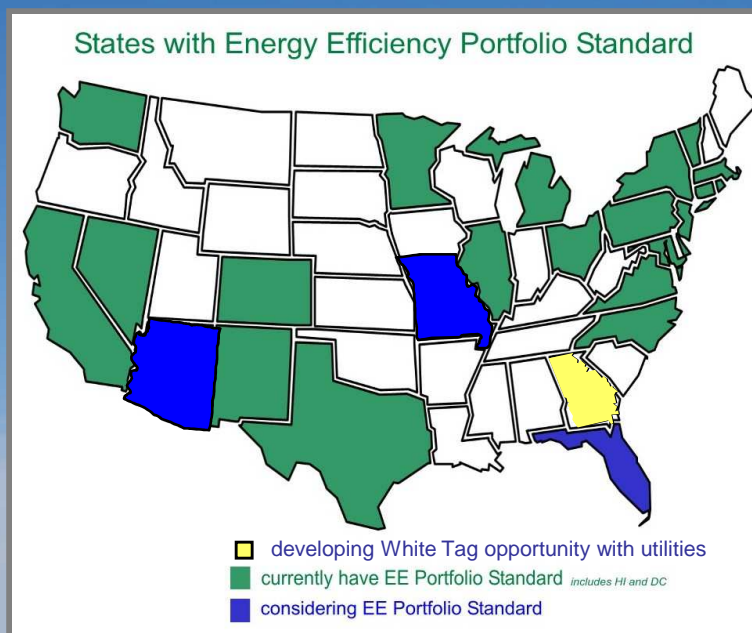
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Energy Efficiency Compliance

- 22 states with energy efficiency standards
- Likely in all RPS states
- Each state defining own White Tag[®] standard
- Pending federal legislation
- National RPS (Up to 50% of RPS using energy efficiency)
- Europe considering a 20% energy efficiency standard



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Michigan EOC Rules

Renewable Energy Credit Substitution: An electric provider may substitute up to 10% of its REC requirement with any combination of Advanced Cleaner Energy Credits (ACECs) or Energy Optimization Credits (EOCs). With the exception of ACECs from industrial cogeneration, MPSC approval through a contested case hearing is required for all substitutions.

- o One EOC may be substituted for one REC.
- o One ACEC generated from plasma arc gasification or industrial cogeneration may be substituted for one REC.
- o For all other types of ACEC facilities, 10 ACECs may be substituted for one REC.

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Michigan Energy Optimization Credits

- **Energy Optimization Standard Overview:** PA 295 contains an Energy Optimization Standard that requires electric providers to achieve annual retail energy sales reductions beginning in 2009. These reductions begin at 0.3% and increase annually to 1.0% for 2012 and thereafter.
- **Energy Optimization Credit (EOC) Definition:** One EOC is granted for each MWh of annual energy savings resulting from an electric provider's energy optimization programs.
 - o An EOC expires when used to comply with the energy optimization performance standard or when substituted for a REC.
 - o An EOC may not be traded, sold, or transferred.
 - o Energy savings generated by self-direct customers⁴ count directly towards the electric provider's required EOCs.
- **EOC Certification and Tracking Program:** The Act requires the MPSC to establish a program to certify and track the granting, expiration, and substitution of EOCs. MPSC staff will be administering the program, including the certification of savings from self-direct customers.

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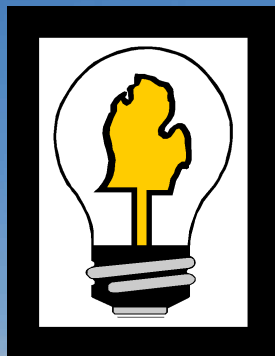
What are Michigan Utilities Saying?



Consumers is ready to implement a White Tag Pilot Program as soon as they can be assured that they will get credit under PA-295;



White Tags must meet PA-295 and MPSC acceptance in final reports. If MPSC would accept/allow a pilot program, they would start procuring White Tags;



Some of the smaller Municipalities would like the option of procuring White Tags to meet their energy-efficiency goals, because they are too small to put together an adequate energy-efficiency plan and don't want to pay the Alternative Energy Price.

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What is the MPSC Saying?



Using White Tags/EOCs would be an excellent way to help Self-Direct customers meet their energy-efficient targets.

This works since utilities will purchase the White Tags/EOCs as long as they are PA-295 compliant

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White Tags® Services

Sterling Planet teams with clients to:

- Create White Tags®
- Measure and verify using advanced White Tag Pro® software
- Maintain continued White Tags® creation
- Monetize White Tags®, with aggregation and set relationships
- “Bank” energy-efficiency savings applied to GHG reduction goals
- Provide public policy and regulatory services

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Baseline Energy Use Model

White Tag Pro® Illustration

- Neural Network
- Online System
- Large Portfolio
- Baseline
- M&V
- Scenarios
- Track
 - Energy Use
 - White Tags®
 - CO₂ (GHG)
 - NOx & SO₂
- Database (I/O)
 - Building
 - Billing
 - Weather



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