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# **Forest County Potawatomi Community Wundar Hall Project**

**Department of Energy  
Tribal Energy Program Review  
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# Background on Forest County Potawatomi Community

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- FCPC has trust land in northern Wisconsin and the City of Milwaukee.
- Facilities include tribal government offices, a health and wellness center, a cultural museum, a former college campus, a hotel, two casinos and various other smaller support facilities and enterprises.



# Project Greenfire

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- In late 2007, FCPC established Project Greenfire.
  - An effort to assess and reduce the Tribe's environmental impact.
  - A major component of the project is to reduce the Tribe's overall carbon footprint.
  - The goal is to ultimately eliminate the Tribe's carbon footprint, be energy self-sufficient, and to be a provider of carbon-free energy to others.



# Project Greenfire

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- Project included:
  - Energy audits for the Tribe's major facilities;
  - Identification of over 100 substantial energy-saving projects;
  - Improvements to the Tribe's energy use by implementing energy-saving measures at Tribal facilities;
  - Implementation of renewable energy projects to offset or replace fossil fuel-derived energy;
  - Addressing transportation related emissions;
  - Identifying renewable energy and other environmentally beneficial development projects for the Tribe to invest in;
  - Quarterly energy use reports allow the Tribe to track its energy use and associated carbon footprint



# FCPC Energy Efficiency and Carbon Reduction Initiatives

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- Initial focus primarily on energy usage at major facilities and on renewable energy opportunities.
- Also addresses transportation emissions (e.g., switch to four-day work week for tribal government operations in northern Wisconsin, resulted in an annual reduction of 170 tons in carbon emissions).
- Overall goal: to reduce the Tribe's carbon footprint to zero, and obtaining carbon-free energy self-sufficiency and potentially green energy sales to others.



# Quarterly Energy and Carbon Reports

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- Identify energy and associated carbon emissions from all FCPC buildings.
- Energy usage/emissions from major buildings, including identification of effects of energy efficiency measures.
- Comparison of energy usage/carbon emissions for past twelve months against 2007 baseline year.
- Already significant reductions: 11.9% decrease in energy and 19.6% decrease in carbon per square foot in 12 months ending 2010 against 2007 baseline.



➤ Reductions represent hundreds of thousands of dollars per year in energy cost savings, which have present value in several million dollar range before carbon cost is included.

# Continued Implementation of Energy Efficiency Efforts

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- Although significant reductions have already occurred, numerous additional opportunities remain.
- Coordination among facilities to share best practices and efficiency opportunities.
- Maximizing value of state and federal incentives for energy efficiency measures.
- Use of quarterly reports to track effectiveness of efficiency measures and to identify additional opportunities.



# Wundar Hall Project

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- Wundar Hall is a 34,000 sq ft building located on the former Concordia College campus just west of downtown Milwaukee. Wundar Hall was built in 1925 and is listed on the National Register of Historic Places.





# Wundar Hall Project

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- The Concordia Campus was acquired by the Tribe and taken into Trust in 1990.
- Wundar Hall is currently not in use. The Tribe plans to develop Wundar Hall to further economic development for the Tribe and to further diversify its economy.



# Wundar Hall Project

- Project will include the following components:

Building envelope:  
energy efficient  
windows and doors,  
upgraded exterior wall  
and roof insulation,  
sealing of exterior  
masonry.



# Wundar Hall Project

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- Project Components cont.
  - Building HVAC System: Install new 94% efficient gas-fired boilers and chillers, upgrade insulation on the distribution systems, and install a digital control system to optimize efficiency.
  - Building Plumbing System: Install energy and water saving fixtures throughout the building.



# Wundar Hall Project

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- Project Components cont.
  - Building Electrical Infrastructure: Install energy-efficient interior and exterior lighting (florescent or LED) and energy-efficient lighting controls including dual-level switching, day-light controls, and automatic shutoff.



# Wundar Hall Project

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- Anticipated total energy savings resulting from the implementation of this project are projected to be:
  - Natural Gas-18,400 therms/yr of 58% of energy use without the upgrades;
  - Electricity-205,000 kWh/yr or 55% of energy use without the upgrades.



# Wundar Hall Project

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- Energy Efficiency Project is a part of a larger over-all renovation of the building.
- The Energy Efficiency portion of the overall project cost is \$2,359,706 with \$1,179,853 support from U.S. Department of Energy.

