THE OHIO STATE UNIVERSITY

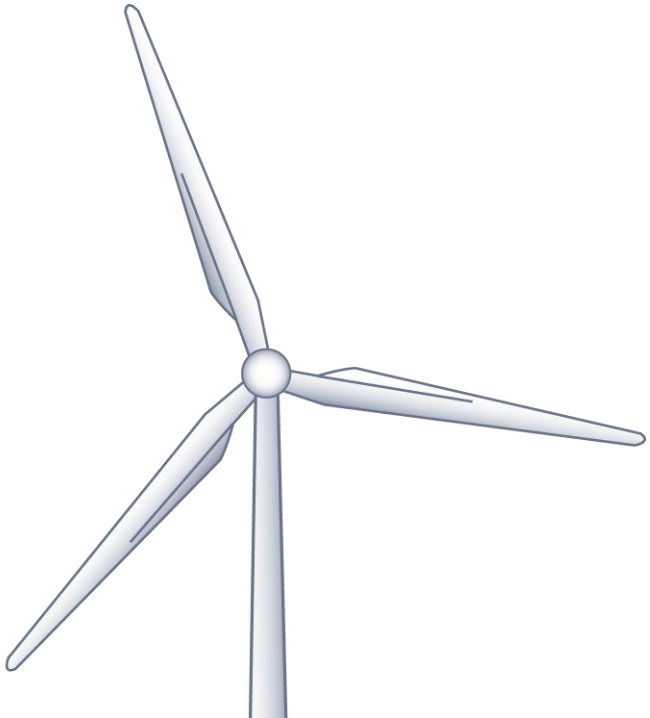
Wind Power Purchasing

USEPA Webinar

Aparna Dial, University Director Energy Services and Sustainability

Quick Facts

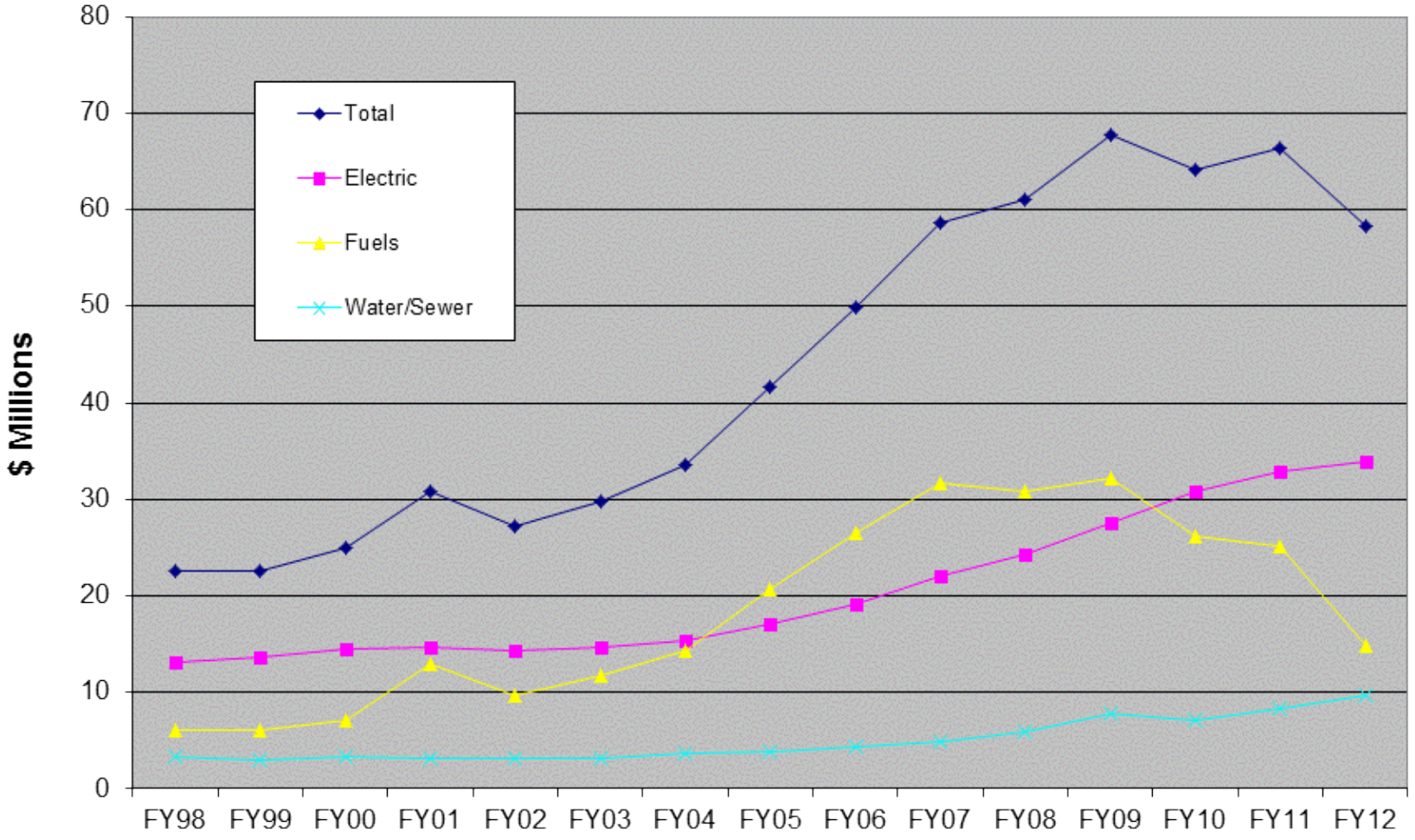
- Located in Columbus, Ohio
- 56,000 Students
- 30,000 Employees
- 450 Buildings; 30 Million GSF
- $5.2 Billion Budget



Energy Infrastructure Profile

- Central Steam and Hot Water Plant
- Three Regional Chiller Plants
- Two Electrical Substations
- Three Geothermal Systems

Ohio State Annual Utility Costs



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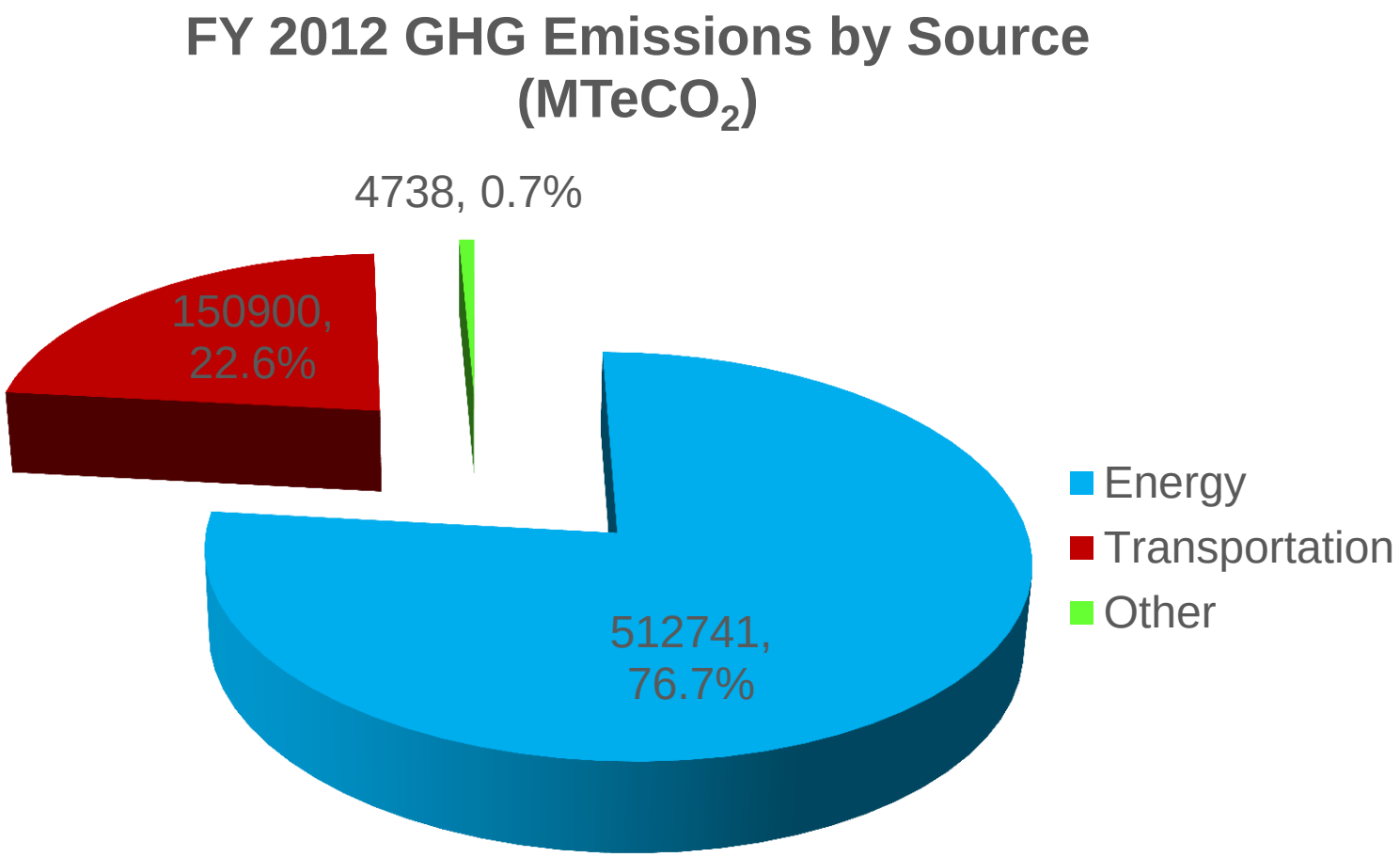
Who We Are



A Commitment to Sustainability

- Sustainability Leadership
- ACUPCC Signatory in 2008
  - Commitment to Carbon Neutrality by 2050
  - Commitment to Innovative Leadership

AMERICAN COLLEGE & UNIVERSITY PRESIDENTS' CLIMATE COMMITMENT
Celebrating five years of climate leadership

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Our Challenge

2009 Energy Inputs

Grid Electricity
574,013,929 kWh/yr
(1,958,536 mmBTU/yr)

29%
% of Annual Energy Consumption

9% T&D Loss

Coal	73%
Nuclear	22%
Natural Gas	3%
Oil	1%
Hydro	0.7%
Biomass	0.3%
Wind	0.1%

Natural Gas and Distillate Oils
3,103,105 mmBTU/yr

46%

Natural Gas	99.4%
Distillate Oils #1-4	0.6%

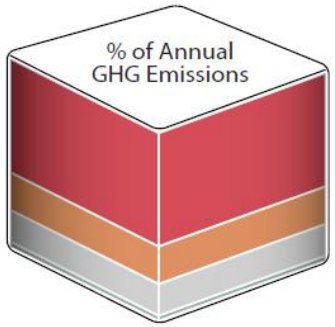
Transportation - Fleet and Commuting
1,710,341 mmBTU/yr

25%

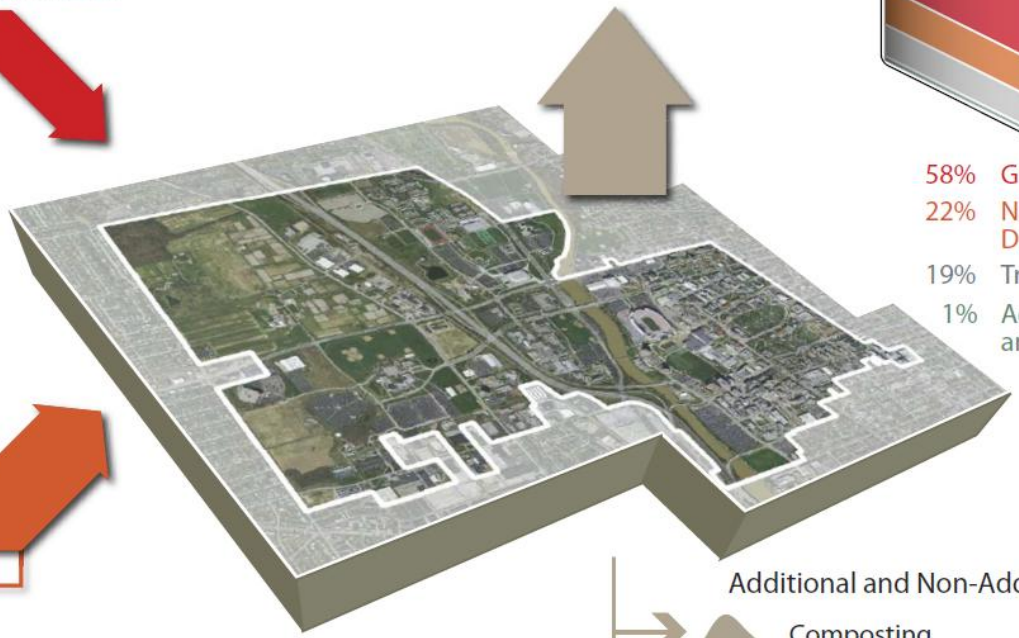
Student Commuting	44%
Faculty and Staff Commuting	42%
Directly Financed Air Travel	9%
Fleet Vehicles - B20 Biodiesel	2%
Fleet Vehicles - Gasoline	2%

2009 Emissions of Greenhouse Gases

Annual Net Emissions
~757,051 $MTCO_2e$ / year



58%	Grid Electricity
22%	Natural Gas and Distillate Oils (#1-4)
19%	Transportation
1%	Agriculture and Solid Waste

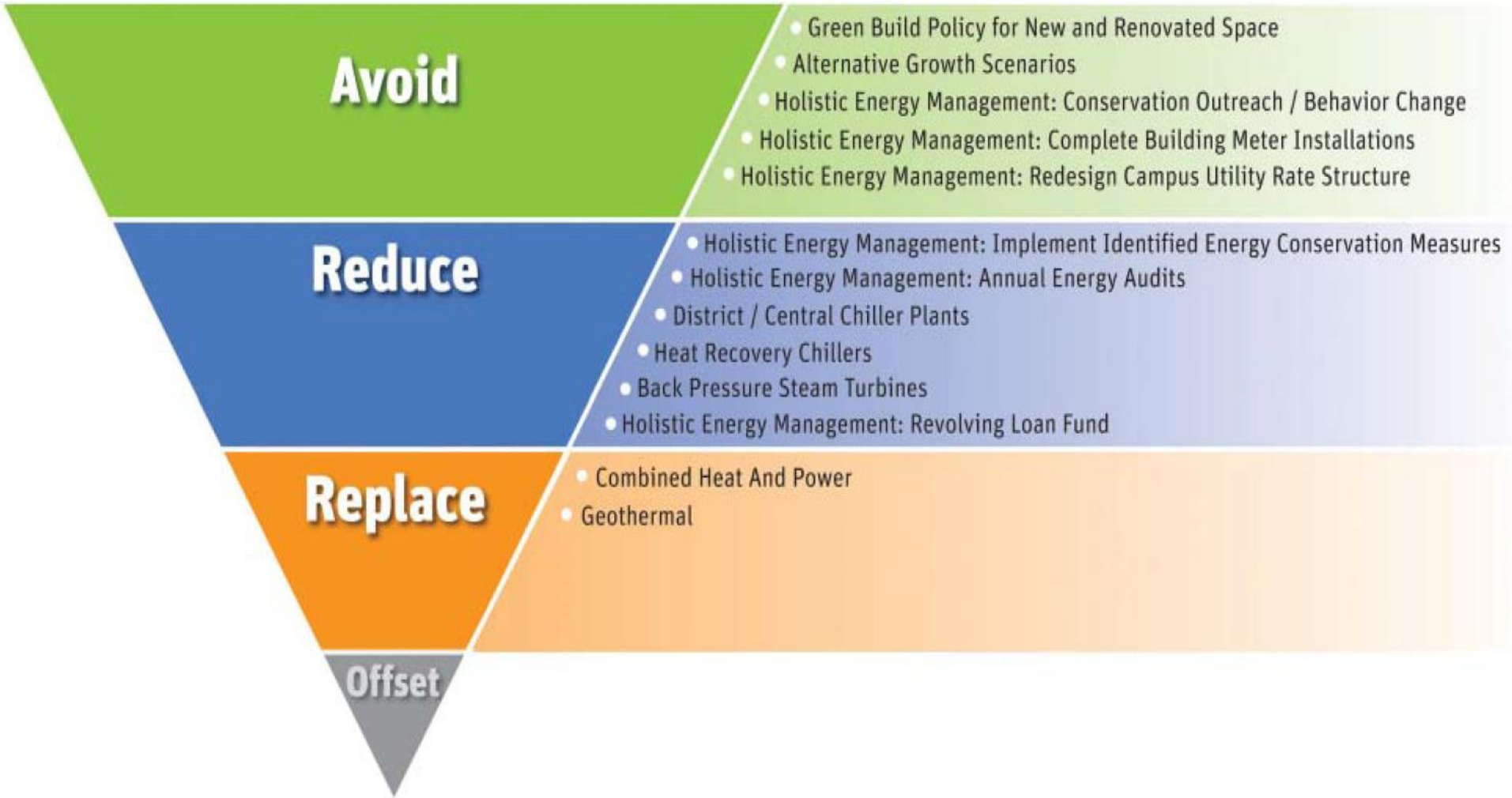


Additional and Non-Additional Offsets

- Composting (~134 $MTCO_2e$ / year)
- Renewable Energy Certificates (~800 $MTCO_2e$ / year)
- On-Campus Biomass and Soil Sequestration (~650 $MTCO_2e$ / year)

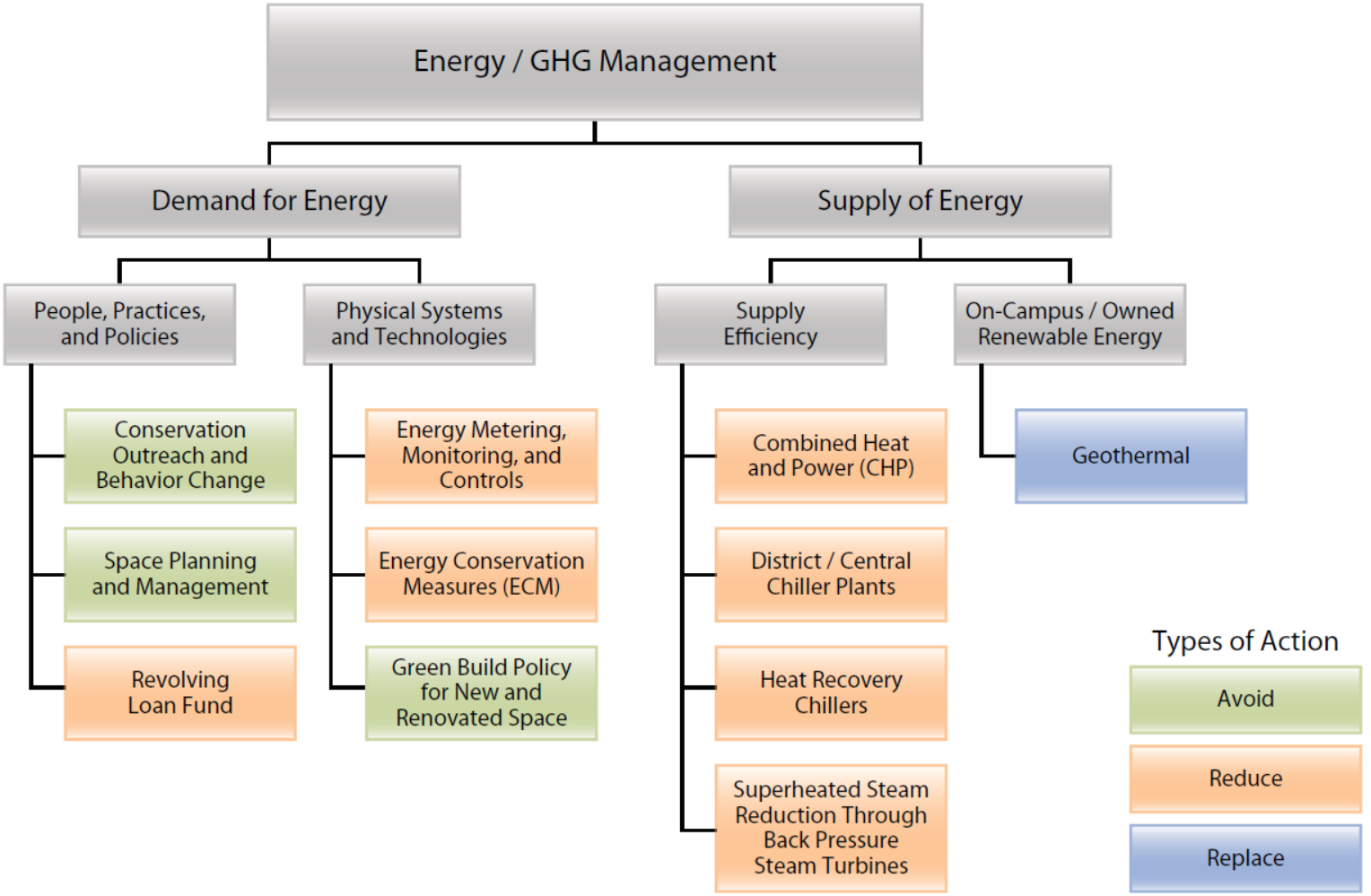
Our Challenge

Energy and Carbon Strategy



Our Plan

Energy and Carbon Strategy



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Our Story

Iberdrola's Blue Creek Wind Farm

Project Location
Tully, Union, and Hoaglin Townships of Van Wert County, Ohio, and Benton, Blue Creek, and Latty Townships of Paulding County, Ohio.

Project Capacity
304 Megawatts (MW)

Number of Wind Turbines
152 Gamesa G90, 2.0 MW wind turbines on 100m (328 ft) towers, which are primarily made in Pennsylvania.

Technology
Turbines on a 328 foot (100 meter) tower for a total height of 476 feet when a 148 ft long blade is straight up. Each nacelle weighs 85 tons. Each foundation uses about 60 truckloads of concrete and 60 tons of steel rebar.

Blue Creek Wind Farm
An Iberdrola Renewables Project

Contract Overview

- Wind Power Contracted from Blue Creek Wind Farm
  - 50 MW wind power capacity
    - Estimated to produce 141,000 MWh annually
  - 20 year fixed price with annual escalator
    - $46.50/MWh with 2% annual increase
  - All environmental attributes retained by Ohio State
- Transmission Contracted Separately via Local Utility
  - Delivery through PJM System
  - Actual costs and credits passed through to Ohio State

Lessons Learned

- Strategic Planning
- Appreciation of a Complex Negotiation Process
- Stakeholder Buy-In/Varied Perspectives
- Understanding of Special Regulatory Issues
- Receptiveness to Novel Utility Acquisition Models

Benefits Realized

- Reduced Carbon Footprint
- Enhanced Sustainability Ratings
- Significant Publicity
- Utility Cost Security
- Aggregate Utility Cost Savings