



THE OHIO STATE UNIVERSITY

Comprehensive Energy Management Project

Board of Trustees

Joint Academic Affairs and Student Life and Finance
Committee Meeting

April 6, 2017



Why we are considering this partnership

SUSTAINABILITY

- Our goal is 25% energy efficiency improvement within 10 years
- Campus-wide upgrades would cost an estimated \$250 million
- A dedicated funding stream would propel progress (avoid redirecting capital from other academic and strategic priorities)

ACADEMIC MISSION

- Substantial new resources for teaching, learning and research would support our strategic priorities
- Campus requested support of internships, scholarships and research
- A partnership could make Ohio State a top university for sustainability and energy research



Four elements of comprehensive approach



SUSTAINABILITY: Install improvements to improve energy efficiency 25% campus-wide within 10 years



OPERATIONS: Manage systems

- Electricity
- Natural Gas
- Chilled water/cooling
- Geothermal
- Steam/Heating



SUPPLY: Assist Ohio State in buying the type of energy we want on the best possible terms



ACADEMIC COLLABORATION: Support teaching, learning and research, particularly in energy and sustainability



A three-stage, deliberative approach

Evaluation of Comprehensive Energy Management Project

Evaluation of Comprehensive Energy Management Project		
<p>Request for Qualifications (“RFQ”) Phase</p> <p>(February 2015– May 2015)</p>	<ul style="list-style-type: none"> ➤ Reached out to over 140 parties to gauge interest ➤ 44 responded with information about their qualifications ➤ University approved 40 to continue to the RFI phase 	<p>ENGAGEMENT HIGHLIGHTS</p> <ul style="list-style-type: none"> ➤ Input from three advisory committees (including review of RFP responses): <ul style="list-style-type: none"> • Faculty Advisors Group • Council on the Physical Environment • President and Provost’s Council on Sustainability ➤ Met with 30+ campus organizations ➤ Held 3 public forums ➤ Sent 9 campus-wide updates ➤ Maintained website
<p>Request for Information (“RFI”) Phase</p> <p>(May 2015– January 2016)</p>	<ul style="list-style-type: none"> ➤ Many of the 40 participants joined together to form comprehensive teams, as required by the RFI ➤ 10 teams submitted indicative proposals ➤ University approved six teams to continue to RFP 	
<p>Request for Proposals (“RFP”) Phase</p> <p>(February 2017 – April 2017)</p>	<ul style="list-style-type: none"> ➤ Three teams submitted bids and accepted university’s requirements for service ➤ Each review group (including advisory groups of students, faculty and staff) rated ENGIE-Axium as top proposal ➤ University leaders to recommend approval to the Board of Trustees on April 6-7 	



Three advisory groups throughout process

- **President and Provost's Council on Sustainability (PPCS)**
 - Developed university's sustainability goals (energy and other issues)
 - Recommended elements of academic collaboration proposal
- **Faculty Advisory Group (includes experts from related fields)**
 - Provided technical review in all areas
 - Helped to shape the Request for Proposals
- **Council on the Physical Environment (COPE)**
 - Reviewed human resource elements



How we developed our recommendation

- Bids ranked by the three advisory groups and the university
- Each element of the proposal was evaluated
 - Academic collaboration
 - Technical
 - Human resources
 - Financial
- Each review group came to same conclusion on top bid
- Top bid offers required benefits to sustainability and academic mission



Overview of ENGIE-Axium's proposal



ACADEMIC
COLLABORATION



SUSTAINABILITY



OPERATIONS



SUPPLY

- Largest investment in Ohio State's academic mission
 - \$1.165 billion for access, affordability, excellence and sustainability
- Unprecedented energy efficiency program to modernize our campus
 - 25 percent improvement in energy efficiency within 10 years
- Establish Ohio State as an international leader in sustainability
 - New research center and other academic collaborations



Investments in our academic mission

Upfront payment for 50-year agreement \$1.015 billion

Academic collaboration \$150 million

Total value to the university \$1.165 billion

Upfront payment to support strategic plan

- Student financial aid
- Compensation enhancements to support competitiveness with academic peers
- Classrooms, research labs and performance and arts spaces
- Fund to enhance sustainability
- Other strategic initiatives

Collaboration opportunities based on community input



- \$50 million for major center for energy research and technology commercialization
- \$25 million for financial aid (undergraduate, graduate and professional)
- 500 internships (\$5 million)
- \$20 million for sustainability projects, curriculum, staff development
- \$9.5 million for five faculty positions
- \$40.5 million for philanthropy



Energy Advancement and Innovation Center

- \$50 million hub for research and technology incubation
 - 60,000-square-foot building, based on or near campus
 - Funding also includes operating costs and seed money for research
- Collaboration between Ohio State, ENGIE and industry experts on
 - Next generation of smart energy systems
 - Renewable energy
 - Green mobility
- First ENGIE research hub in North America; would be 12th globally



ENGIE-Axium's operating responsibilities



SUSTAINABILITY

- Carry out energy conservation measures to meet goal
- Provide capital funding for approved projects (university would retain approval rights)



OPERATIONS

- Operate systems that power, heat and cool campus
- Required to meet or exceed our performance standards
- Perform and provide capital funding for improvements (university would retain approval rights)



SUPPLY

- Support our procurement of electricity and natural gas
- Ohio State would continue to buy directly from providers (and determine mix of energy sources and fuels)



Oversight, flexibility and end of contract

- Key performance indicators in contract will be tracked annually
 - Includes operations and progress on sustainability
 - Operator would face penalties up to removal for non-performance
- University to form Energy Advisory Committee
 - To review capital projects and approve annual operating budget
 - To provide input on proposed changes to performance standards
- Structure allows new energy technologies to be trialed and implemented
- Assets revert back to University at contract conclusion



Background on ENGIE-Axium

- Companies would operate new entity: Ohio State Energy Partners

ENGIE

OPERATOR/EQUITY INVESTOR

- Supplies electricity to 14 deregulated U.S. markets (states)
- Manages 250 district heating and cooling energy systems globally
- Serves approximately 150 higher education and health-care facilities
- Clients include the University of Maryland, where ENGIE has managed the campus power plant for almost 20 years
- On the Dow Jones Sustainability World Index and the Dow Jones Sustainability Europe Index

Axium

EQUITY INVESTOR

- Manages two infrastructure funds totaling over \$1.5 billion in assets and \$1 billion in managed co-investments
- Focused on long-term returns; uses buy-and-hold investments in core infrastructure assets
- Actively invests in renewable energy, with interests in over 2.5 GW of wind, solar, and hydroelectric power generation across North America



Ohio State's fee structure

- Total cost of energy designed to be consistent with current cost structure
- **Fixed fee:** Starts at \$45 million a year, 1.5% annual increase for inflation
- **Operating fee:** Starts at about \$9.2 million
 - Annual adjustment based on actual costs of the operation, as approved through the budget process
- **Variable fee:** Would be based on ENGIE-Axium's investments in energy conservation measures and other capital improvements
 - Funding to be a 50/50 split of debt and equity
 - Initial return on equity = 9.35%
 - Initial cost of debt = 3.691%



Recap

	Current state	With CEMP
High standards for energy operations	✓	✓
University determines sustainability goals	✓	✓
University determines mix of energy (including renewables)	✓	✓
Investments in energy system affect university costs	✓	✓
Major investment (\$1.015 billion) in academic mission (student aid, faculty/staff support, capital projects, other)		✓
Major investment (\$150 million) in academic collaboration (research hub, scholarships, internships, faculty positions, sustainability fund, university philanthropy)		✓
Major energy efficiency program with dedicated funding		✓



Discussion

Energy project website: go.osu.edu/CEMP