Comprehensive Energy Management Project

University Senate

April 4, 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
- Geothermal
- Natural Gas
- Steam/Heating
- Chilled water/cooling

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

<table>
<thead>
<tr>
<th>Request for Qualifications (&quot;RFQ&quot;) Phase</th>
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<tr>
<td>(February 2015 – May 2015)</td>
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<tr>
<td>➢ Reached out to over 140 parties to gauge interest</td>
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<td>➢ 44 responded with information about their qualifications</td>
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<td>➢ University approved 40 to continue to the RFI phase</td>
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<tr>
<th>Request for Information (&quot;RFI&quot;) Phase</th>
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<td>(May 2015 – January 2016)</td>
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<td>➢ Many of the 40 participants joined together to form comprehensive teams, as required by the RFI</td>
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<td>➢ 10 teams submitted indicative proposals</td>
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<td>➢ University approved six teams to continue to RFP</td>
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<tr>
<th>Request for Proposals (&quot;RFP&quot;) Phase</th>
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<td>(February 2017 – April 2017)</td>
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<tr>
<td>➢ Three teams submitted bids and accepted university’s requirements for service</td>
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<td>➢ Each review group (including advisory groups of students, faculty and staff) rated ENGIE-Axium as top proposal</td>
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<td>➢ University leaders to recommend approval to the Board of Trustees on April 6-7</td>
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<th>ENGAGEMENT HIGHLIGHTS</th>
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<td>➢ Input from three advisory committees (including review of RFP responses):</td>
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<tr>
<td>• Faculty Advisors Group</td>
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<td>• Council on the Physical Environment</td>
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<tr>
<td>• President and Provost’s Council on Sustainability</td>
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<tr>
<td>➢ Met with 30+ campus organizations</td>
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<td>➢ Held 3 public forums</td>
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<td>➢ Sent 9 campus-wide updates</td>
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<td>➢ Maintained website</td>
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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

- 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 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

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

Presentation posted at go.osu.edu/CEMP