

The 2004 DOE Hydrogen, Fuel Cells and
Infrastructure Technologies
Program Review
Lansing Community College
Alternative Energy Initiative

May, 2004

This presentation does not contain any proprietary or confidential information



PROJECT OBJECTIVES

- To support the National Energy Policy to integrate reliable, affordable, and environmentally sound energy for American's future by increasing awareness and knowledge about alternative energies including hydrogen fuel cells.
- To increase the viability and deployment of renewable energy technologies by creating an integrated educational program to prepare technicians capable of supporting alternative energy technologies.

OUR VISION:

Use the new West Campus instructional facility to showcase alternative energy applications including:

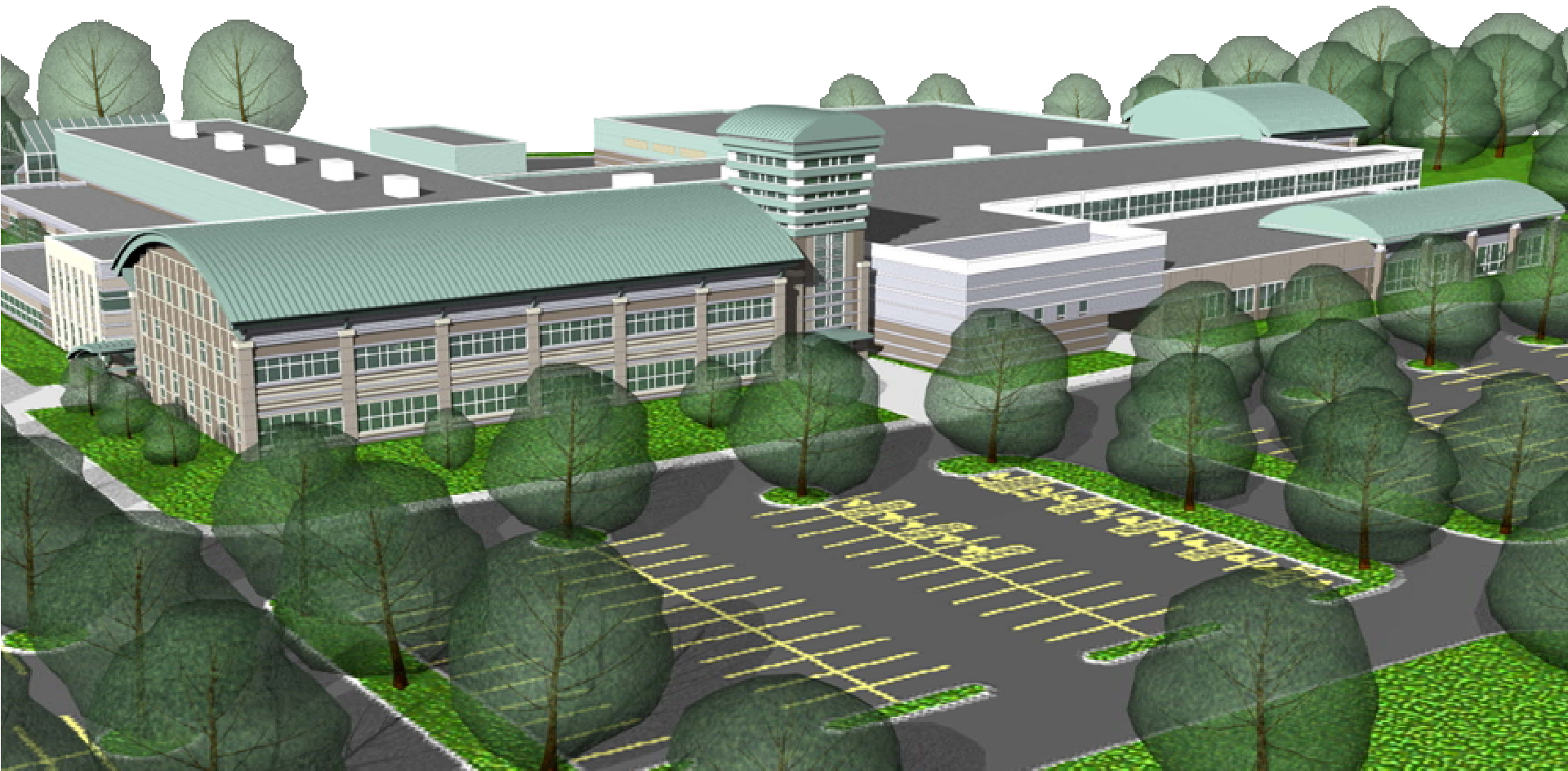
Geothermal;
Wind;
Solar;
Biomass; and
Fuel cell

Applications would include using alternative energies to heat, cool and operate parts of the facility, as well as educate and prepare the workforce (including K-12) to build, operate, and repair alternative energy systems. The facility will also serve as a demonstration site for business and industry.

BACKGROUND

Lansing Community College proposes to use this federal award to support the institution's college-wide Alternative Energy Initiative. The project will include creating an energy lab housed in a new instructional facility where students, employees, and decision makers can observe, operate, and use alternative energy technology (including fuel cells) as part of an integrated educational program that prepares and retrain technicians capable of supporting alternative energy technologies.

LCC WEST CAMPUS



This project supports the National Energy Policy and National Hydrogen Energy Roadmap's education goals to increase the viability and deployment of renewable energy technologies by supporting efforts to:

- Increase the number of students, teachers, business leaders and decision makers who understand the concept of alternative energy, including hydrogen, and how it may affect them;
- Increase the visibility for alternative and renewable energy applications, especially in building and land technology applications and in automotive technician applications.

This project is anticipated to commence in June, 2004 with funds expended by June, 2006.



FUNDING

Total funding for the project will be over \$2 million dollars from the following sources:

- \$981, 077 from DOE
- \$1,000,000 +
Lansing Community College
- \$ 30,000 CN
- Funding will be from FY04 budget

TECHNICAL BARRIERS AND TARGETS

Technical Barrier:

LCC activity:

Lack of awareness

Web site

Public information efforts

Technical Barrier:

LCC Activity:

Lack of demonstrations and
Real World Examples

Working labs

Technical Barrier:

LCC Activity:

Access to audiences

***Public information efforts including
targeted outreach to decision makers
On line distribution of materials
Coordinated outreach to K-12, comm
colleges and four year universities***

APPROACH

The Alternative Energy Initiative is designed to spur economic development and educational opportunities in our region and our state. LCC's proposed programs will engage business, industry and governmental partners to ensure the development of a relevant educational experience.

APPROACH (cont.)

Department of Energy funds will be used to support this initiative by:

- purchasing instructional equipment for use in alternative energy labs at the new West Campus;
- equipping the West Campus to use alternative energy technologies;
- supporting the development of an alternative and renewable energy curriculum;
- supporting faculty professional development to learn more about alternative and renewable energy technologies; and
- supporting an outreach effort to increase public awareness and knowledge of alternative and renewable energy technology as a career path and to educate key audiences about alternative and renewable energy systems to facilitate market acceptance of these technologies.

Phase III
July 05 – June 06

Demo labs operating
Outreach plan done
Partner involmnt cont.
Faculty PIn cmpltd
Curriculum Dev. plan
completed

Phase I
July 04 – Dec 04

Facility completion
Equipment procurement
Outreach effort plan
Partner engagement
Faculty Dev. Plan init.
Curriculum Dev. Plan
initiated

Phase II
Jan 05 – June 05

Facility opened
Equip. integrated in cur.
Outreach effort
implemented
Partner engagement
continued
Faculty Dev cont
Cur Dev cont

TECHNICAL ACCOMPLISHMENTS/ PROGRESS

Project is just beginning

Accomplishments include integrating AEI into College operations; establishing internal task force to coordinate all Alternative Energy project across the institution
Further development of concept

Engagement of key partners

Significant public exposure to College's energy programs



INTERACTIONS AND COLLABORATIONS

Establishing an AEI Partners Task Force to ensure industry, community and governmental engagement

Coordinating equipment procurement to maximize industry participation and donations.

Identifying opportunities for collaboration and sharing of resources: educational, planning, equipment, etc.

FUTURE WORK: FY04

Submission of completed program proposal

Completion of instructional facility and demonstration labs

Procurement of equipment for new instructional facility

Faculty development: identify faculty to receive professional development; create and implement professional development plan

Curriculum development: identify modules that will need to be written

Development and initial implementation of outreach plan