

Montana Hydrogen Futures Project

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Project ID #
EDP 3

This presentation does not contain any proprietary or confidential information

Project Overview

Timeline

Project Start Date: November, 2004

Project End Date: April, 2006

Percent complete: 80%

Budget

Energy Technicians Program \$275,895

H2 Safety Center \$219,570

K-12 H2 Web Site \$117,429

Futures Park Planning \$137,106

Barriers

Lack of Awareness

Lack of Demonstration or Real World Use

Hydrogen workforce infrastructure

Institutional Barriers and Access to Audiences

Ongoing funding sources

Regional Differences in State

Partners

Oz Architects

UM Ed Leadership Program

DOE, DOT, US Fire Marshal Asso.

Pacific Northwest Labs

Objectives

1. To develop a college curriculum for alternative and hydrogen energy technicians
2. To establish a hydrogen safety training Center at the UM-MCOT
3. To develop a hydrogen futures information and education web site supporting the growth and development of a hydrogen economy
4. To work with consultants and faculty to develop a program and facilities plan for the Hydrogen Futures Park @ UM

Approach Overview

Development of educational infrastructures that support the creation of a Montana Hydrogen Economy and stimulate national progression of hydrogen technology.

- Mobilizing of expertise
- Development of plan of work and project management
- Interface with DOE
- Management of development process
- Completion of work
- PR and Implementation of projects

Project Approach

Plan and Approach

Task 1. Energy Curriculum

Identified need areas

Identified Curriculum Developers

Course Development

Task 2. H2 Safety Training Center

Identify needs and players

Collaborate with Players

Develop and distribute program

Task 3. K-12 H2 Education Web-site

Define parameters

Develop and Launch

Expand and Update

Task 4. H2 Futures Park Planning

Strategic Plan and Team Development

Architect Interface

Plan Development

Progress: Energy Technician Program

- Advisory Board
- Curriculum Content
- Web based coordination
- Course Development
- On-line input
- Course completion

Progress: Hydrogen Safety Center

- Partnership with practitioners
- Collaboration: DOE, DOT, USFM
- Curriculum identification
- Securing equipment
- Program Marketing

Progress: H2 Education Web Site

- Site Design
- Key Elements
 - Hydrogen Economy: History, Politics, Fuel Cells, International, Production, Renewables, Nonrenewables, gasification
 - Hydrogen Education: Degree Programs, Tutorials, Futures Park
 - About Hydrogen: History, Chemistry, Biology, Physics, uses
 - Resources: Links, Ask an Expert-Chat/Mess Bd, Video Gallery
 - Course Completion

Progress: H2 Futures Park

- Business Plan
- State and national support
- Architect identification
- Plan and site development
- Advisory Board interface
- Legislative Approval

Results

- www.H2education.com
- 1 and 2 year Energy Technicians Program
- H2 Futures Park Plan
- H2 Safety Program Collaboration

Future Work

- Curriculum Completion and Dissemination
- H2 Safety Program Development
- H2education.com updates

Summary

- Relevance
 - Education and Safety are the basic building blocks of a hydrogen economy
- Approach
 - Greatest need and reason for funding is a Montana focus
 - Where possible, work with local, regional, state, and national groups proved successful in moving project objectives forward
 - Project consistent with DOE identified directions
- Collaboration
 - Locally with curriculum and web site developers who have researched other resources in developing their part of the program
 - Nationally with DOE, DOT, Fire Marshal and NWPL to pull together relevant safety training program
 - Limited funding for broader collaboration
 - Limited hydrogen/fuel cell industry involvement in Montana
- Technology
 - Web site development
 - Web-based program development

Reviewers Comments Response

- Project was designed to foster the infrastructure needed in Montana's Hydrogen Economy
- Development of Safety Program has been slow as has been the progress that has been made by all the national players in this area.
- Very limited funds dictated only localized, Montana specific, interface for curriculum development

Publications and Presentations

- Approximately 50 presentations have been made regarding the Hydrogen Economy in Montana.
- Over 3000 persons have participated in these presentations
- Leadership has fostered a new age of attention and interest in coal to hydrogen gasification in Montana.
- Fostered initial submission of the only state-wide proposal for FutureGen proposal from Montana.

Critical Assumptions and Issues

- Availability of funds to support projects
- Support of University in advancing a hydrogen economy and education infrastructure for the state.
- Slowness in the ability of DOE to distribute acceptable hydrogen safety materials.