



Wind Energy at Grinnell College

Emily Stiever '09

Eli Zigas '06



Overview of Presentation

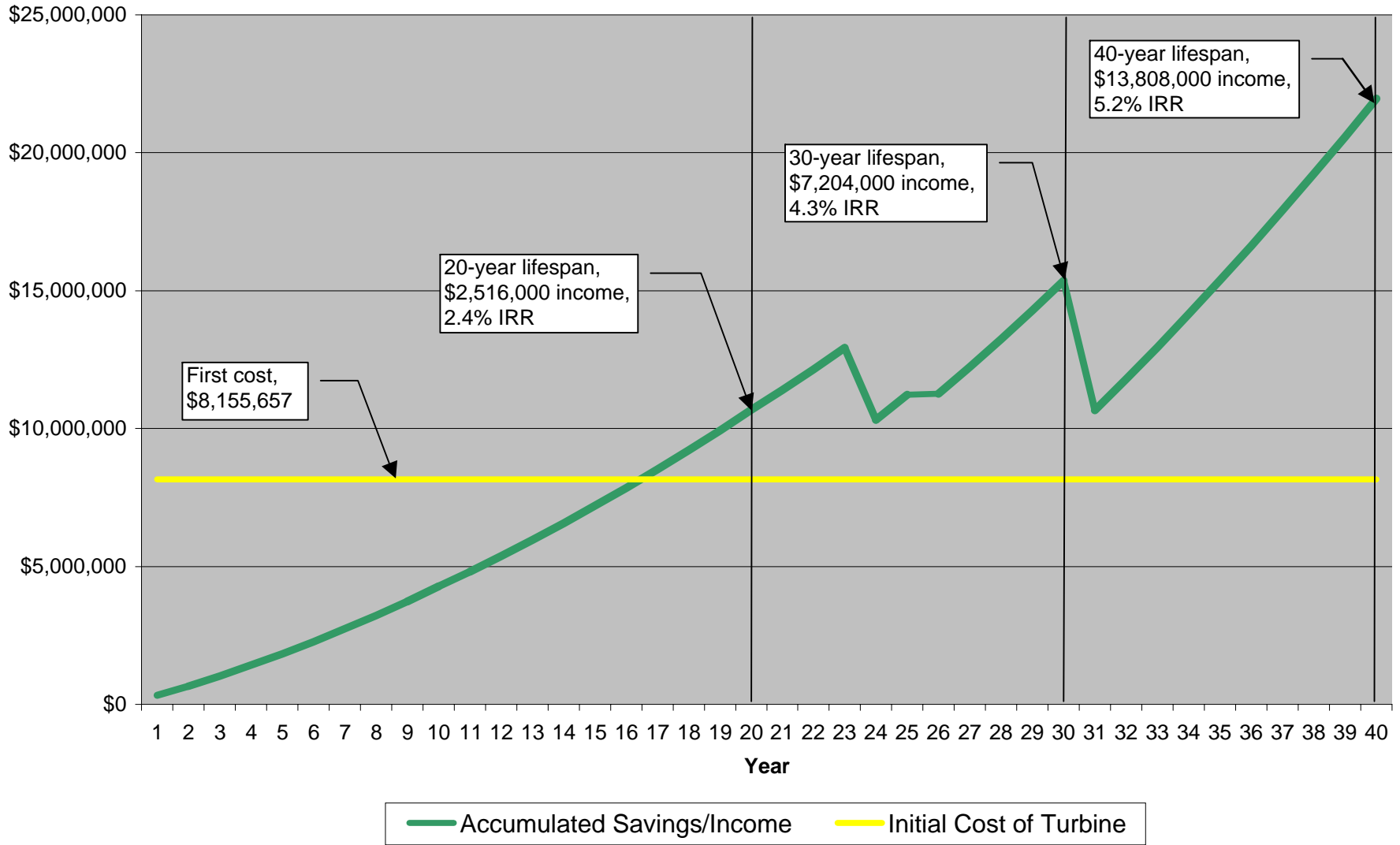
- Background
- Discussion of good use of College's money for environmentally responsible initiatives
- Added benefits of College-owned turbines
- Global context



Background

- **Since February:**
 - **College commissioned Tom Wind**
 - **Committee revised recommendations based on Wind's report**
- **Most recent recommendations of wind feasibility committee:**
 - **Two turbines north of campus**
 - **One turbine at CERA**
 - **Projects pay themselves off within lifetime of turbines**

Payoff for two 2.5 MW turbines - NE site 20-, 30- and 40-year lifespans





Evaluating the Project

- Is the turbine project a good use of the College's money as a means of reducing Grinnell's contribution to climate change and its reliance on "dirty" energy ?



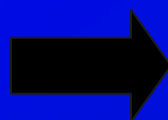
Options for reducing our reliance on the electrical grid

- Implement energy efficiency projects
- Buy renewable energy
 - Alliant's Second Nature Program
- Construct wind turbines
 - Sell green tags
- Construct wind turbines
 - Do not sell green tags

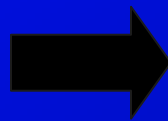


What is a Green Tag?

**Production of
Electricity from
Renewable Energy**



Commodity Electricity



Renewable Attributes



How to Evaluate Options

- Evaluate options based on commodities produced by turbines
 - Electricity
 - Economic stability
 - Carbon credits
 - Environmental benefits



Options for reducing our reliance on the electrical grid

	Economic Stability (Electricity)	Environmental Benefits (Carbon Credit)
Energy efficiency projects	✓	✓
Buy renewable energy	✗	✓
Construct wind turbines -Sell green tags	✓	✗
Construct wind turbines -Do not sell green tags	✓	✓



Additional Benefits of Wind Turbines, No Green Tags

- **Alumni development**
 - 204 petition signatures
 - Overwhelming support
- **Student recruitment**
 - Carleton College
 - Macalester College
 - St. Olaf College
- **Community enhancement**
 - City of Grinnell perceived as forward-thinking



Photo from Carleton College



Maximizing Project Potential

- College Community Wind Partnership
- Negotiations with Alliant Energy
 - Current economic analysis constrained by contract terms
 - Need for escalated buy-back rate
 - Potential for negotiations





Larger Context of Environmental Responsibility

- Climate change is challenging our world
 - “The debate over whether Earth is warming up is over. Now we’re learning that climate disruptions feed off one another in accelerating spirals of destruction. Scientists fear we may be approaching the point of no return.”

-Time Magazine, April 3, 2006





Larger Context of Environmental Responsibility

- Action is necessary
 - “Take over your administration building, occupy your university president's office or storm in on the next meeting of your college's board of trustees until they agree to make your school carbon-neutral.”

-Thomas Friedman,
NY Times, April 21, 2006.



Larger Context of Environmental Responsibility

“Grinnell College believes that as a liberal arts institution with a strong social commitment, we have a duty to the environment, society, and future generations to be leaders in environmental stewardship, education, and policy. Grinnell College is therefore committed to incorporating environmental responsibility into policies, decisions, and daily life on campus.”

Grinnell College Statement of
Environmental Responsibility



Call to Action

- We need to do something
- We can do something
- Let's take the step



Questions?

