

Go Green

Summary

Your company is looking for ways to cut costs, or it may need to cut wages for employees. As employees, you team up to present the idea of “Going Green” to management, which is a way to make the business more energy efficient and/or sustainable. Compete for the best idea by brainstorming, researching, and pitching your idea.

Workplace Readiness Skill

Creativity and Resourcefulness

Workplace Readiness Definition

- Contributing new ideas (e.g., for improving products and procedures)
- Displaying initiative readily, independently, and responsibly
- Dealing skillfully and promptly with new situations and obstacles
- Developing operational policies and procedures that use resources in a sustainable manner

Vocabulary

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|------------------------|------------------------------|-----------------------------------|
| • Creativity | • Initiative | • Operational procedures |
| • Resourcefulness | • Responsibility | • Sustainability |
| • Sustainability | • Adapting to new situations | • Human resources |
| • Conservation | • Overcoming obstacles | • Recycle and re-use of resources |
| • Efficiency | • Operational policies | • Costs |
| • Materials | • Carbon footprint | |
| • Improving products | | |
| • Improving procedures | | |

Context Questions

- Going green means to make your workplace more energy efficient and sustainable, to use materials that are longer lasting and leave less of a carbon footprint. What are the main components of sustainability?
- How is being a creative/resourceful employee beneficial to your employer?
- Why would businesses want to “go green”?
- How can sustainability benefit profits?
- What are everyday conservation methods? What ways can you practice “going green” at home?
- What measures can affect a business’s bottom line?
- What are the basic ways in which all businesses might be able to easily practice sustainability?

Guidelines

Create a formal proposal by completing the following.

Answer the following general questions:

1. What is your business? What does it/you do?
2. Is your business located in a building? If so, what are some associated building costs, including utilities?
3. Does your business rely on using or producing materials? If so, what is the waste?

4. Does your business employ others? If so, what are some wasteful behaviors that might be changed?
5. Is energy consumption a main part of your business? Is transportation?
6. To whom would you submit this proposal?

Answer the following plan specific questions:

- What is your plan's focus?
 - Material conservation
 - Energy conservation
 - Energy source
 - Employee behaviors
 - Recycle
 - Re-use
 - Carbon footprint/waste
 - Other, describe:
- What are the benefits to the environment?
- Does this plan improve company profits? How so?

Summarize your plan:

- Are there any costs associated with carrying out your plan?
- How much of an impact can this plan make?
- How would you get acceptance for your plan? With whom would you share your idea?
- What are your doubts about the plan?

Evaluation

See [rubric](#)

Reflection after Completion (may be a questionnaire)

- What was the most difficult part of creating your idea?
- What steps did you take to come up with your idea? Did you use research?
- What did you think about your proposal? In what ways did it succeed or fail? What were the unknowns in your proposal?
- Did your original idea help you create additional ideas?
- What else did you learn from this activity?
- What are the next steps? How would you implement this plan? Was that a part of your plan?

Notes:

This activity produces workers who are concerned with the same things that top executives are: cutting costs. Why not save the world while improving the bottom line? Students should understand that often conservation and sustainability measures are not adopted by larger businesses if there is not a financial incentive to do so. But the nature of conservation suggests that every little bit helps. Students might begin by reading: <http://www.businessnewsdaily.com/2367-employees-green-office.html>, to get an idea about what is possible on an individual scale.

Example:

Answer the following general questions:

1. **What is your business?** Operations Management. **What do you do?** I manage daily activities at an airport.
2. **Is your business located in a building?** We have an office at the airport. **If so, what are some associated building costs, including utilities?** HVAC, electricity, computers. Paper products. Office furniture.
3. **Does your business rely on using or producing materials?** No, but we work closely with all operations in the airport, from baggage handling to vendors, to runway maintenance, to new design. **If so, what is the waste?** One of the biggest areas of waste is airplane fuel, which is also harmful to the environment.
4. **Does your business employ others?** Operations management is a small office, but touches on many other areas, such as pilots and aircraft maintenance staff, and air traffic control. **If so, what are some wasteful behaviors that might be changed?** My idea is to change the behaviors of pilots during taxi.
5. **Is energy consumption a main part of your business?** For airlines, yes. **Is transportation?** Yes.

Answer the following plan-specific questions:

- **What is your plan's focus?**
 - Material conservation
 - Energy conservation
 - Energy source
 - Employee behaviors
 - Recycle
 - Re-use
 - Carbon footprint/waste
 - Other, describe:
- **What are the benefits to the environment?** Less jet fuel used in the short-term produces less carbon emissions and saves on extraction and processing efforts and byproducts.
- **Does this plan improve company profits?** Yes, jet fuel is a major expense. **How so?** Saving even the smallest amount of fuel makes flying more efficient for the airlines.
- **Summarize your plan:** Currently, jets are pulled away from the gates and pointed toward the runway. Pilots once pushed back themselves, which was like hitting a thruster to back them up, but it was wasting a huge amount of fuel. Now pilots use fuel to wait and move in line toward takeoff. They also use fuel unnecessarily when taxiing to their gates. If airplanes were towed by electric vehicles, it would save fuel.
- **Are there any costs associated with carrying out your plan?** Yes, every gate would be assigned a taxi vehicle, but essentially, they already are, because they are towed out.
- **How much of an impact can this plan make?** Jet fuel use rose 4.46% in 2015 and another 4.42% in 2016. Over 12 billion gallons are used annually. (<http://www.transtats.bts.gov/fuel.asp>) According to researchers at MIT, "The taxi-out phase of a flight accounts for a significant fraction of total fuel burn for aircraft. In addition, surface fuel burn is also a major contributor to CO₂ emissions in the vicinity of airports."
- **How would you get acceptance for your plan? With whom would you share your idea?** I would share this plan with my immediate supervisor and ask to discuss it after additional research at a staff meeting. It might go straight to proposal or need additional research.
- **What are your doubts about the plan?** It may be that this idea is already being considered. It may be that towing causes too much delay and runway traffic/congestion.

Options

- Create a budget based on your plan.
- Research green efforts in other companies.
- Write a report on how sustainability efforts can cut costs or how popular these types of ideas are on today's businesses.

Differentiation:

1. Technology use—use word processing and graphic design software to create the proposal
2. Multisensory options—pitch your idea to your supervisor using visuals and charts
3. Community connections—identify some cost cutting and environment improving measures used every day in the community
4. Small-group learning—brainstorm ideas, research relevant support for your plan and present findings, especially regarding how much is wasted and how much might be saved under your plan
5. Vocabulary strategies—word wall and matching, match words or phrases under each term in the skill area, “creativity” and “resourcefulness.” Mind map and perform an iteration.
6. Student organization of content—final product should produce an organized proposal or completed worksheet.

Resources:

- Green Practices and Worker Productivity Go Hand-in-hand, Study Finds: http://www.huffingtonpost.com/2012/09/11/green-practices-productivity-study_n_1874529.html
- 30 Easy Ways to Go Green in the Office: <https://www.americanexpress.com/us/small-business/openforum/articles/30-easy-ways-to-go-green-in-the-office-1/>
- Balakrishnany, H. and Khadilkar, H. “Estimation of Aircraft Taxi-out Fuel Burn using Flight Data Recorder Archives,” Massachusetts Institute of Technology, Cambridge, MA (<http://www.mit.edu/~hamsa/pubs/KhadilkarBalakrishnanGNC2011.pdf>)
- Bureau of Transportation Statistics (<http://www.transtats.bts.gov/fuel.asp>)