

### **Accident Rate**

The accident rate at one of your facilities in a developing nation was reported in a blog and now the press is raising questions about related working conditions. You need to prioritize the options you feel will correct the situation.

### **Advertising Themes**

The market responded favorably to the Stratosphere's advertising campaign (refer to the Baseline Example - "SphereMover Connection Article"), earning your company a high level of recognition in the marketplace. However, because it is so well known, studies show that continued use of this *exact campaign* would have diminishing returns. Your challenge is to build on this past success with a creative new campaign. Advertising Age is running a cover story on "Snappy Slogans and Jazzy Jingles" and you have a message from a reporter asking to interview you regarding your company's campaign.

### **Advisory Committee**

In order to better understand various stakeholders' perspectives, the company initiated an Environmental Advisory Committee comprised of scientists, environmental organizations and government agencies to report to the Board quarterly. Suppliers were also included.

### **Air Quality**

Global air quality regulations are becoming more stringent. Your CEO has asked for a plan to protect your license to operate. Your plan includes the following items. Indicate the order in which you propose they be done.

### **Anti-Fad Campaign**

An environmental organization in the Industrialized Nations has started an anti-fad campaign aimed at making customers aware of how pursuing the latest fad is inconvenient as it requires lost time in searching for a replacement and lost value from discarding the former product before its full value has been used. In a related note, the Kinector Association has just initiated a study to determine how much money is spent each cycle in redesigning and retooling for new products as well as the cost of moving obsolete inventory due to changing fads.

### **Best Places to Work**

One of your competitors was just rated one of the top 100 places to work - largely due to employee survey results that indicated that workers felt both proud of the effort the company was making to reduce waste, and empowered by their involvement in the process.

### **Blog Questions Plant Activity**

A Blog questioning the accuracy of a statement your company made during a TV interview regarding plant working conditions of one of your facilities. The blog captured media attention and proved blogs can be a new aggressive watchdog, with thousands of bloggers willing and even eager to question or attack reports.

### **Boycott**

A boycott of VIRGIN YELLOW CONNECTORS has been successfully launched by a consortium of environmental and community groups in response to the recent environmental justice report. They are hoping the boycott will encourage the Kinector industry to develop a more efficient infrastructure to support the advancement of recycled-content yellow connectors as this process would greatly lessen worker health and environmental impacts. To date, the effort has combined forces of both national and grassroots organizations by launching a national media campaign coupled with local protests.

### **Brownfield Development**

Recently a community development corporation (CDC) has contacted you with a proposal to develop a recycling facility on a brownfield site. The CDC invited you to contact them if you are interested in discussing this idea further.

### **By-Product Synergy**

One of your competitors has initiated a “By-Products Synergy Program” to identify ways that it’s current waste streams may be used as inputs into other company’s manufacturing processes. Somebody from the company selling the Excelsior left you a voice message asking if you wanted to participate in the program.

You question some experts before returning the call and identify three primary questions

- Which by-products can technically be converted to resources?
- Is the transportation or use of the by-product regulated?
- Will the public resist the purchase of products produced from waste?

### **Certification**

To prove to customers that their high percentage of remanufactured components (45%) enhanced the Vanguard’s value (one of your competitors), they authorized a third-party safety agency to test the product. The agency announced that the “Vanguard passed every environmental and safety test and was strong on the job”.

### **Clean Technology Investment**

Your company has the opportunity to invest in the development of one of three types of clean technologies for a one-time investment of \$15 million. Each has an expected reduction of 33% of total component pollution value.

1. Fuel cells to reduce dependence on fossil fuels and the impact on climate change.
2. Biomimicry technologies in order to redesign industrial systems and products along biological principles to reduce or eliminate toxicity.
3. Information technology to make self-monitoring and adaptive systems and products reducing input resources such as water.

## Climate Change and Investors

An UN summit recently convened by the Council for Environmentally Responsible Businesses (CEREB) assembled institutional investors representing over \$1 trillion in invested capital to examine the financial risks of global climate change. Some of your firm's investors were in attendance and the potential ramifications are unclear. Prioritize the actions you believe your company should take in response to this summit.

## Competitive Analysis - Simulated Companies

Clean Technology - TechnoSphere  
Market 2; \$ 1,800; Evaluation 14

Bottom of the Pyramid - Provisio  
Market 2; \$ 2,100; Evaluation 14

Pollution Prevention - Excelsior  
Market 1; \$ 2,300; Evaluation 16

Product Stewardship - Vanguard  
Market 1; \$ 2,700; Evaluation 16

## Customer Education Campaign

One of your competitors learned from surveys of previous customers that consumers are confused by environmental claims and want to better understand how to make comparisons between products. As a result, the company launched a consumer education campaign (in cooperation with environmental organizations) to help consumers understand the life cycle impacts of a SphereMover

## Customer Research Reports

Your latest research shows that consumers (especially in Market 1) are heavily influenced by fads — the latest of which is RED RODS. Your product evaluation score will increase with the use of this component. They are also concerned about safety and prefer products that are designed to protect the spheres while the SphereMover is in use. Most associate large SphereMovers with safety and status.

Most customers in the Industrialized Nations say that they will pay between \$2,400 and \$2,900 for typical SphereMovers. However, sixty-five percent of those surveyed in both markets said that they would pay more for a product that offered "exceptional value". Demand is expected to decrease greatly if prices exceed \$4,200. Customers in the Developing Nations will pay between \$1,200 and \$1,600 and demand is *extremely inelastic* over \$2,400.

The same research shows that while customers are concerned about the environmental friendliness of SphereMovers, they are not willing to pay a premium for this product attribute. Also due to the introduction of a few “environmentally friendly” products with poor performance, customers in general may be leery of products with recycled-content or remanufactured components.

### **Donation**

One of your competitors has started a marketing promotion that donates 2% of their SphereMover sales to the “Make Products Waste Not” organization due to research that showed customers considered this a cost-effective way to make a contribution to a good cause.

### **Endangered Species**

A recent report shows the acquisition of raw materials for LARGE WHEELS is contaminating water in the Developing Nations, threatening the existence of two endangered species. Although there are no official restrictions to the acquisition of these components an Industrialized Nations-based environmental organization petitioned your company to discontinue use of Large Wheels in your Kinectors. They are currently lobbying for special product labeling that would keep this product from qualifying as a “species friendly” product. A representative from the organization left a business card and invited you to contact them.

### **Environmental Footprint**

A popular magazine published an article comparing the environmental footprint (the amount of resources used to manufacture a product) of companies across several industries. As a result, your company is receiving inquiries and you are considering several steps to reduce your firm's footprint. You need to prioritize your recommendations for executive management.

### **Employee Involvement**

One of your competitors has formed volunteer employee groups to find ways to reduce waste and to find safe alternatives for virgin red rods (remanufactured red rods). As an added bonus, the research this team conducted caused department staff to be more aware of their operating costs which resulted in unexpected savings.

### **Employee Turnover Down**

A recent study showed employee turnover and associated costs had substantially decreased over the past three cycles for one of your competitor's companies. Further, when benchmarked against the SphereMover industry the company's results were quite favorable. The study suggested that this might be attributed to the employee's pride in their company's contribution to the community and for upholding high standards.

### **Endangered Species**

One of your firm's core product raw materials is harvested from the bark of a rare species of U.S. Pacific Northwest yew tree. Unfortunately, removing the bark kills the tree and endangers the habitat of the spotted owl. What are appropriate steps to take? Indicate your priority for implementation.

### **Energy Management**

*Executives for Energy Efficiency*, a program of the Alliance to Save Energy has contacted you, encouraging an energy management program. They have proposed several measures and your Board has asked you to prioritize them.

### **Environmental Justice**

An environmental justice organization has reported a study showing that workers exposed to highly polluting VIRGIN YELLOW CONNECTORS are more susceptible to many serious diseases. The study also shows that these facilities have been historically sited in economically disadvantaged locations. It states that workers are forced to take these jobs or face unemployment and that this is a case of 'environmental injustice'.

### **Environmental Justice – Global**

Your firm produces its products in cheap labor markets and sells them in high income markets. Recently an NGO launched an environmental justice campaign and has targeted your firm for exploiting weaker partners. In response, your company needs to prioritize the following policy options.

### **Environmental Management System**

The Board wants a report on the status of the company's environmental management process as it relates to end-of-life issues including the following:

- percentage of your products components that are reusable or recyclable and the number of different component types used;
- specific environmental objectives and targets for this cycle and next;
- a plan to achieve targets (including sign-off from other team members);
- a summary of which, if any, measures will be reported publicly.

### **Expected Market Growth**

Market 1 expected to grow steadily at a rate of 50% per cycle. Market 2 expected to grow 200% in Cycle 2 and 150% in Cycle 3

### **Global Agreement Signed – Greenhouse Gases**

The Global Agreement on Greenhouse emissions (GAG) has been ratified. This agreement will establish attainment standards for air pollution. Companies that exceed the standards may trade their credits with companies that failed to meet standards. For companies who successfully commercialized a clean energy technology to reduce greenhouse gases this is expected to translate into a minimum gain of \$3 million this cycle.

### **Green Marketing**

Your colleague just returned from a "green marketing" conference and has four recommendations that he feels will help differentiate your products. Which, and in what order, do you think your company should implement?

### **Illegal Trade**

You have received an anonymous tip that some of your employees may be illegally exporting a wild orchid that grows on the grounds of one of your M2 facilities. It is possible the security company you have hired is aware of the activity

### **Industrial Ecology Park**

One of your competitors is working with government agencies to develop plans for an industrial ecology park/network where one company in the network would transfer waste and by-products to another company in the network that could use them as valuable inputs. The first project is to collect recyclable green connectors within park to create supply of recycled green connectors.

### **International Institutions Seek Solutions**

While robust economic growth is alleviating poverty in some Developing Nations, in many, the poor are being by-passed. With economic growth has come increased urbanization. Because industrialization in the countries has focused initially on commodities and heavy industry, the people in these cities face oppressive pollution. Several international institutions in cooperation with Developing Nations' governments have asked for your company's financial help in finding a solution to these problems.

### **Insurance Assessment**

Water quality issues, not directly related to water use in your facility, can negatively impact your business. Your insurance company is assessing your firm's risk. As a result you recommend the following. Indicate the priority/order that you feel should be assigned to each.

### **Job Security**

To remain competitive, your company must meet increasingly stringent environmental standards while also continuing to lower manufacturing costs. Employees are concerned these pressures will result in plant closures and job loss in the Industrialized Nations. Labor rates in M1 have increased to \$25 and in M2 they have risen to \$6.

### **Lifecycle Stage – Use**

A recent study shows that 80% of the energy consumed related to your product(s) occurs during customer use -- which is outside of your direct control. As a result you suggest the following steps. Indicate the order in which you recommend completion.

### **Maintenance Classes**

One of your competitors started a program to offer free do-it-yourself maintenance classes to existing customers so that they could extend the life and performance of their current SphereMover. The company expects this to increase the percentage of the SphereMovers that may be remanufactured after takeback.

### **“Make Products, Not Waste” Media Campaign - Communications Director**

The Board has asked you to investigate opportunities for increased publicity and enhanced brand image. You have recently been contacted by a non-profit organization about their “Make Products, Not Waste” Media Campaign. Could this be the opportunity for which you have been looking?

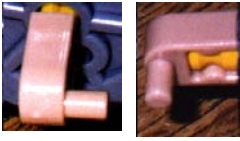
### **Make Products Not Waste – Environment Director**

Your Board has suggested that your company sign on to a new voluntary program in the Industrialized Nations: "Make Products — Not Waste." This would obligate your firm to reduce manufacturing emissions by 50% this cycle (as compared to the baseline's Stratosphere's 795 units of manufacturing pollution). Those firms that meet or exceed this standard will receive extensive publicity. Those companies that do not will face increased government scrutiny and the possible reduction of goodwill in the market place. If you would like to enroll in the program please see a “Make Products Not Waste” Spokesperson.

### **Market Size Forecasts**

Market 1: 100,000 units (50% expected growth); Market 2: 400,000 units (150% expected growth)

## OSHA Regulation - Universal Attachments



“Universal Attachments” (shown at right) are used to hold rods, wheels, and connectors in place. Their cost is included in overhead (GS&A) – use as many as you need. The Occupational Safety and Health Administration (OSHA) requires the following announcement be made to all employees in your company. “Used incorrectly, universal attachments may shoot across the room, endangering your fellow teammates. The proper way to remove them is to aim the attachment into your palm and using your thumbs snap it off into your hand.”

## Poll Supports Social and Ethical Issues

A 1999 International Poll showed that 53% of the M1 respondents (N=25,000) say firms need to have a balance between focusing on profits and demonstrating concern for ethical and social issues.

## Pollution Release Inventory (PRI) – Environmental Director

At the end of the cycle, the amount and location of pollution that your company creates will be made publicly available. Everyone, including regulators, environmental and human rights organizations, and competitors will have access to this information. Regulators may be especially interested in the units of pollution your company creates per product. Environmental and human rights organizations may be especially concerned with equity issues such as “did you create most of your pollution in the developing nations and sell your product to the industrialized nations”? Competitors may be watching to see if they have an opportunity for advantage over your company.

## Pollution Release Inventory Approved – Marketing Director

A Pollution Release Inventory has been approved and will require that your company disclose emissions levels and pollution information to the public (scored by the computer at the end of the cycle). Excessive pollution releases, compared to others in the SphereMover industry, could result in negative publicity and loss of reputation in the marketplace. This would create downward pressure on sales, even if you are in compliance with all existing environmental laws.

## Public Misperception

The Kinector Association recently conducted a survey of employees from Kinector companies and the public regarding Kinector industry environmental stewardship. The survey uncovered a wide gap in perceptions. Employees industry-wide had a high-level of awareness and satisfaction with current product stewardship activities, referencing pollution prevention, life cycle and stakeholder practices. However, the public was largely unaware of industry’s environmental activities. Those that reported awareness of a recent publicity campaign expressed skepticism regarding the message.

### **Recycled-Content Components Available**

A few recycled-content components are now on the market. Since you will acquire these components from a supplier, already manufactured and ready for assembly, material prices for the recycled-content components include labor, energy and manufacturing waste disposal costs. Please note that this is an emerging market and that availability of some components may be limited - so you will need to see the facilitator/supplier to buy these components.

### **Remanufacturable Components**

Your company's baseline SphereMover – the STRATOSPHERE used GREEN RODS, RED RODS and GRAY RODS, all of which are now remanufacturable components. These components may be separated from discarded SphereMovers and remanufactured to original quality standards. Your cost for using remanufacturable components drops to approximately 30% of the virgin material price. Reuse/remanufacturing also creates less pollution, avoiding 90% of the pollution created through the manufacturing of virgin components.

### **Renewable Energy**

You have a voicemail from an energy company describing the benefits of installing solar panels on your facilities to reduce your dependence on fossil fuels that contribute to climate change. The representative cited favorable public opinion and potential to trade emissions credits as benefits of installing the panels. He left his number if you would like to call him.

### **Safety Regulations - Industrialized Nations**

New safety regulations in Industrialized Nations have been passed requiring you to use a device to prevent sphere damage.

### **Stakeholder Communication**

One of your competing companies contracted an external environmental consulting firm to improve environmental management systems and to facilitate company meetings with employees, the community and environmental groups to better understand their interests.

### **Sustainable Yield Programs**

Although they are renewable resources, the replenishment of WHITE RODS AND WHITE CONNECTORS may need to be managed in order to ensure an adequate supply for current and future cycles. Resource management programs to ensure future availability of these components will increase the current component price by approximately 10% in this current cycle, but will protect your company from potential price increases (up to \$10/component possible) due to resource shortages. Tell the facilitator if you wish to implement this program.

### **Supply Chain**

A key component supplier has recently begun promoting their ability to provide business solutions. You feel you can best leverage this development in your supply chain by pursuing options in the following order:

### **Takeback Possible**

At a recent manufacturing conference you heard a speaker addressing the possibility of future product "takeback" regulations in the SphereMover industry. Takeback regulations would require companies to finance the collection and disposal of their products when customers are finished with them. Currently your company does not collect products after consumer use nor does it finance the disposal of products. Your Director of Environment may have ideas about how to reduce your exposure to this issue. One of your competitors in the SphereMover industry is rumored to be planning their own takeback program before possible regulations are passed. Several experts claim there may be competitive advantage to proactive development of a takeback program.

### **Takeback – Cycle Two**

One of your competitors designed for end-of-life product management and initiated a voluntary takeback of their product. By working with suppliers to limit the number of materials used and to improve their quality, the company expects to gain a 20% cost advantage over competitors by the time regulations are passed.

### **Trash-for-Cash Program**

Started a program where citizens may first collect, then deliver trash made from various useful raw materials to the industrial ecology park for cash. This "Trash for Cash" program won praise from environmental groups for using market-based incentives for recycling.

### **Universal Attachments Micro-Enterprise**

To help preserve villages in non-developed regions one of your competitors initiated a micro-enterprise to make universal attachments out of environmentally friendly materials.

### **Upgrades Opportunity**

A company has contacted you offering to sell your customers upgrades to your Kinector that will provide customers additional convenience. They say this will build loyalty with your customer base and offer more value to them as they will be able to save money by upgrading rather than replacing their Kinectors.

### **Water Issue Threaten Reputation**

Although your company has implemented global manufacturing standards that mean your factories in M2 operate at M1 pollution release levels, most companies in your geographic area have not implemented similar practices. Their release of waste into local waterways is causing eutrophication and impacting your supply of clean water. If this situation continues, you will have to pay more to treat water used in your facility, impacting the cost of several components. In addition, communities and governments in the local area are not distinguishing your company from those that are polluting. The Board has asked for your recommendations regarding the situation.

### **Water Practices**

Global demand for clean, fresh water continues to grow while many sources are showing signs of stress. An environmental NGO has started to question fresh water use practices in your industry. As a result you suggest your company consider these options. What order would you suggest they be implemented?

### **Worker Health Concerns – Virgin Red Rods**

A consortium of environmental organizations in the Industrialized Nations has targeted your company claiming that your manufacturing processes (particularly RED ROD processes) are contributing to environmental and worker health problems. Both the union and several local communities are actively promoting a boycott of your company's SphereMovers (which would lower your company evaluation score). You have several voicemail messages waiting for you regarding this issue from several members of the media.

### **Working Conditions**

Recently, the media from the Industrialized Nations has been interested in the poor working conditions found in many of the Developing Nations' manufacturing facilities. The attention has resulted in several front-page headlines, calling for improved conditions and financial reparations from the Industrialized Nation companies managing the facilities. Several global "employee rights" activist groups are organizing around the issue of worker rights. You may wish to address this issue by contacting this stakeholder group.