Producers Group: You are a Small-Business Chemical Entrepreneur

Your Background and Biography

Your father was a chemistry professor at Brigham Young University who cofounded a company that specializes in metal separation. You grew up around chemistry labs. When you were in high school, you helped out in the lab in the summer, setting up equipment and monitoring run after run of an experiment under your dad’s supervision. You went on to get a PhD in chemical engineering. Today you are the president and CEO of the privately held family firm.

Using chemistry to help the environment is central to your company’s business: one example is ensuring harmful metals are removed from industrial waste streams, as required by environmental laws. Another part of the company focuses on recycling metals from discarded catalytic converters, which reduce the exhaust emissions from internal combustion engines. Companies use your molecular recognition technology to extract palladium from recycled converters efficiently and affordably.

While focusing on catalytic converters has been good for business, efforts to reduce climate change will likely spell the end for fossil fuel–powered cars along with their converters. However, hybrid and electric cars can still provide a business opportunity: your company’s chemical technologies are also useful for separating the rare earth elements essential for the batteries and motors in electric cars. For a while you worked with a mining company that hopes to develop deposits of rare earth elements in Alaska. You’ve tested your separation method on these rare earth ores and succeeded in separating out the rare earth elements from a leach solution and then separating the rare earths from each other. But the new mine is not yet open, and it may never open as long as prices for rare earths stay relatively low.

The problems for your business are cost and opportunity. While prices for rare earths are low, investors and companies will not pay to develop new mines or invest in new processes. You see the Chinese near-monopoly on rare earths as responsible for artificially low prices and a lot of environmental damage. A seal of social and environmental responsibility could create a high demand for rare earth elements.
produced in less destructive ways, such as by the methods your company would like to sell.

In the negotiation you want the Sustainability Seal to be available for newly mined metals, as well as metals recovered through recycling, that are separated using techniques that create less pollution, such as the one you have developed. Ideally, you would also like to make existing Chinese companies pay to repair the damage they have done to the landscape in China as part of being certified as sustainable.

Your Mission

Your goal at this hearing is to convince the Stewardship Council to include the Producers Group’s recommendations in its final Sustainability Seal guiding values. To make this argument effectively, you must do the following:

- Complete the assigned readings listed at the bottom of this page.
- Work closely with the other members of your group to develop clear answers to the Stewardship Council’s questions.
- Use as much specific information as possible to develop strong arguments for your position that the price of sustainably certified rare earth metals needs to cover the true cost of production and environmental protection, and investment in innovative production methods should be promoted to reduce social and environmental harms.
- Read as much as you can about your position and the positions of the other groups.
- Complete written reflections on your character, interest group, and readings as assigned.

Your Victory Objectives

- You will receive 10 points if the Stewards select your group’s proposal as the final Sustainability Seal guiding values.
- The Stewards will rank the interest groups by how well their goals are represented in the final Sustainability Seal guiding values. You will receive between 1 and 4 points based on how the Producers Group is ranked and how well the Sustainability Seal guiding values reflect your goals.

SOURCES

Group Sources

- Producers Case Study: “The Changing Geography of Rare Earth Element Production”
• Ives, Mike. “Boom in Mining Rare Earths Poses Mounting Toxic Risks.” Yale Environment 360, January 28, 2013.

Individual Sources

• Collison, Ken. “Nanotechnology and Rare Earth Separation,” Singapore International Rare Earth Investment Conference, November 2014. Published by Youtube user UcoreTV, November 14, 2014. (Video, 26:21 min.) (Description of molecular recognition technology begins at 13:58, ends at 21:35)
• Lasley, Shane. “Ucore Builds REE Separation Plant Team.” Mining News North, November 1, 2019.
• Mining.com. “Ucore CEO Ken Collison Discusses the Bokan Rare Earth Project in Alaska.” Interview, February 18, 2013. (Video, 5:44 min.)