**Day 3: Entanglement of Rare Earth Elements (REEs) - In-Class Activity**

**Group # \_\_\_ Group Members:**

**Pre-Class Assignments:** Rare Earths video, entanglement homework essay

**Activity Objective:**  Apply entanglement as a method for analyzing people-thing interactions, their material, social, political, economic, and cultural contexts, and how they are difficult to break out of.

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**1. Apply Ian Hodder’s entanglement premises to the use of REEs today:**

a. Draw a tanglegram that graphically displays our current entanglement with REEs (both general technologies and specific uses). (see instructions on how to draw a tanglegram)

The tanglegram should specify in some way 1) how people are dependent on REES, 2) how REEs as “things” are dependent on other things, 3) how REEs, as things, are dependent on people; and thus the interdependencies of people and REEs.

b. Briefly explain why this is a form of “entrapment” and why it is unsustainable.

c. How does the historical trajectory of entanglement of REEs since the 20th century make it difficult to innovate new technologies, or even revert back to old technologies?

**2. Brainstorm solutions. How can we create sustainable green technologies for the 21st century given the currently unsustainable entanglement of REEs?** [bullet points okay in this section]

a. What are potential engineering solutions?

b. What are potential political and economic solutions?

c. What are potential social and cultural solutions? (Consider social aspects of affordances and constraints.)

Grading Rubric. Your grade for the activity will be determined from the following criteria (max 5 points):

5= Responses are appropriate, comprehensive, and indicate thoughtful engagement with the information and concepts from the lecture, readings, and videos. Novel ideas, creativity, and attention to complexity are a plus.

4= Good effort. Responses and arguments are not as clearly presented, or as comprehensive and thoughtful as in a full credit answer.

3= Responses are less appropriate to the assignment, less thoughtful and engaged, with less complete information. Errors in grammar, punctuation and or sentence structure will also result in loss of points.

2= Responses are incomplete, showing little effort, thought, or use of preparatory materials.

1= Responses are not consistent with preparatory materials. Assignment is badly incomplete. Next to no effort.