Online Session 2: Critical Thinking Task 1

GROUP 1

Type of fuel cell: SOFC (Solid Oxide Fuel Cell)

You will be randomly assigned to breakout rooms and asked to research one of four types of fuel cells found on the sharepoint depending on your group number.

Discuss:

1. Firstly, why are there different types of fuel cells being developed? Should investments not be focused on developing a single type that works well?
   Think about both sides to this argument.

2. What kind of electrolyser does this fuel cell use? What makes it different from the other types?

3. The operating temperatures (the temperature the cell needs to reach before it is working optimally) of each type of cell will vary.
   What are the operating temperatures of this cell and why must this be something important to consider when deciding on which type of fuel cell to use?

4. The range of power outputs will also vary.
   Why is it sometimes easy to overcome a problem in which a single cell of a certain type only has a small power output?

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GROUP 2

Type of fuel cell: PEMFC (Polymer Electrolyte Membrane Fuel Cell)

You will be randomly assigned to breakout rooms and asked to research one of four types of fuel cells found on the sharepoint depending on your group number.

Discuss:

1. Firstly, why are there different types of fuel cells being developed? Should investments not be focused on developing a single type that works well?
   Think about both sides to this argument.

2. What kind of electrolyser does this fuel cell use? What makes it different from the other types?

3. The operating temperatures (the temperature the cell needs to reach before it is working optimally) of each type of cell will vary.
   What are the operating temperatures of this cell and why must this be something important to consider when deciding on which type of fuel cell to use?

4. The range of power outputs will also vary.
   Why is it sometimes easy to overcome a problem in which a single cell of a certain type only has a small power output?

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GROUP 3

Type of fuel cell: AFC (Alkaline Fuel Cells)

You will be randomly assigned to breakout rooms and asked to research one of four types of fuel cells found on the sharepoint depending on your group number.

Discuss:

1. Firstly, why are there different types of fuel cells being developed? Should investments not be focused on developing a single type that works well?
   Think about both sides to this argument.

2. What kind of electrolyser does this fuel cell use? What makes it different from the other types?

3. The operating temperatures (the temperature the cell needs to reach before it is working optimally) of each type of cell will vary.
   What are the operating temperatures of this cell and why must this be something important to consider when deciding on which type of fuel cell to use?

4. The range of power outputs will also vary.
   Why is it sometimes easy to overcome a problem in which a single cell of a certain type only has a small power output

Online Session 2: Critical Thinking Task 1

GROUP 4

Type of fuel cell: MCFC (Molten Carbonate Fuel Cell)

You will be randomly assigned to breakout rooms and asked to research one of four types of fuel cells found on the sharepoint depending on your group number.

Discuss:

1. Firstly, why are there different types of fuel cells being developed? Should investments not be focused on developing a single type that works well?
   Think about both sides to this argument.

2. What kind of electrolyser does this fuel cell use? What makes it different from the other types?

3. The operating temperatures (the temperature the cell needs to reach before it is working optimally) of each type of cell will vary.
   What are the operating temperatures of this cell and why must this be something important to consider when deciding on which type of fuel cell to use?

4. The range of power outputs will also vary.
   Why is it sometimes easy to overcome a problem in which a single cell of a certain type only has a small power output?