**Preparation**

* Download “Working the Levers of Climate Action”

**Purpose**

In this activity, you’ll create a plan for reducing emissions in a Grand Challenge of your choice. By identifying solutions in a particular Grand Challenge and outlining ways that individuals, governments, and businesses can help support these solutions, you will analyze the best possible strategies for effectively reducing emissions.

## Process

1. Choose one Grand Challenge that you think will make the biggest impact in terms of reducing greenhouse gas emissions. You might consider a number of factors when choosing a Grand Challenge: the percentage of emissions attributed to the Grand Challenge; the number of viable solutions; or how many people the Grand Challenge impacts, to name a few. Note: Your teacher may allow you to use the Grand Challenge you identified in the closer activity for Lesson 4.2.
2. Your teacher may ask you to read or review the article “Understanding Climate Action.” Once you’ve chosen your Grand Challenge, you’ll create a plan for reducing emissions focusing on each of the three levers of power (personal, government, business). You’ll identify a solution at each lever of power that would best support reducing emissions within your Grand Challenge. You might identify a single solution that can be effectively deployed at each lever of power, or you might identify a different solution at each lever.
3. Complete the table in Part 1 of the Grand Challenge Reduction Plan worksheet to identify your Grand Challenge and three solutions.
4. After you’ve complete Part 1, answer the questions in Part 2 to create your reduction plan.
5. Be prepared to share one of your solutions and how this solution will reduce greenhouse gas emissions for one of the levers of power.

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***Part 1***

**Directions:** Choose a Grand Challenge and at least three solutions. Then, decide which lever of power (personal, government, business) is best suited to help advance each solution.

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| **Grand Challenge:** | *How We Plug In* | |
| **Personal** | **Solution:**  *Renewable energy* | **Brief overview of this solution at the personal lever of power:**  *In some places, individuals can opt to purchase renewable electricity from their utility company instead of electricity generated from fossil fuels.* |
| **Business** | **Solution:**  *Advanced battery storage* | **Brief overview of this solution at the business lever of power:**  *Private businesses can innovate to develop advanced battery storage solutions. These batteries would allow zero-carbon electricity produced from renewables to be available at all times.* |
| **Government** | **Solution:**  *Nuclear power* | **Brief overview of this solution at the government lever of power:**  *Governments can provide funding to support the research and development of advanced nuclear fission or fusion projects.* |

***Part 2***

**Directions:** Answer the questions to formulate a reduction plan for your chosen Grand Challenge.

1. Why did you choose this Grand Challenge as the one that will make the biggest impact in reducing greenhouse gas emissions?

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| *Grand Challenge 1: How We Plug In will make the biggest impact because the ability to produce zero-carbon electricity will affect all other Grand Challenges. As we electrify products and systems that have previous run on fossil fuels, the impact of innovation in Grand Challenge 1 will be the most significant.* |

1. How will each of your solutions help reduce greenhouse gases in your chosen Grand Challenge?

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| * *Renewable energy will reduce emissions from power plants that burn fossil fuels to generate electricity. In some places, individuals can opt to pay a small premium in exchange for electricity produced from zero-carbon sources.* * *Battery solutions are necessary to scaling renewable energy because renewable sources like sun and wind aren’t always available. Large-scale batteries can store excess energy for use at any time.* * *Nuclear power is the only carbon-free energy source that has been proven to provide energy anywhere, anytime on a large scale. As the world continues to use more energy, we’re going to need lots of accessible low- or zero-carbon energy.* |

1. Why is the lever of power you selected for each of your solutions an effective way to reduce greenhouse gas emissions in your Grand Challenge?

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| * *Individuals can reduce their own emissions by opting to purchase renewable energy, but they can also signal demand to the utility company, which will encourage adoption and drive down prices.* * *Businesses are important drivers of innovation, and we need continued development of large-scale battery solutions to make them better and more cost-efficient.* * *Nuclear energy, particularly the development of nuclear fusion, is expensive and requires lots of research and development to encourage adoption. Governments are the best ones to take on funding for high-risk, complicated projects like this.* |

1. What actions can you take to promote these solutions for each lever of power?

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| * *Educate community members about their options to opt into renewable energy purchasing plans.* * *Use power as a consumer to support companies engaged in innovation, or advocate for other organizations to support them.* * *Advocate to decision-makers in support of policies that support the research and development of nuclear projects.* |