The AI Energy Challenge

Grade 5-7 Activity Write Up

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The AI Energy Challenge

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About Actua

Actua is creating a Canada where every child has the skills and confidence they need to achieve their full potential. As a leading science, technology, engineering and mathematics (STEM) outreach organization, Actua includes over 40 universities and colleges, engaging 500,000 youth in 600 communities each year. For 25 years, Actua has focused on identifying and removing the barriers for entry into STEM and now have national programs dedicated to engaging Indigenous youth, girls and young women, Black youth, those facing economic barriers and youth in Northern and remote communities. For more information, please visit us online at www.actua.ca and on social media: Instagram, LinkedIn, Facebook and YouTube! For more information, please visit us online at www.actua.ca and on social media: Instagram, Facebook, LinkedIn, TikTok and YouTube!

The AI Energy Challenge

Activity Summary

In this activity, participants explore the dual role of Artificial Intelligence (AI) in global efforts toward environmental sustainability. The activity is divided into two parts: first, participants model and quantify the significant carbon cost associated with training and running AI models by using sugar to represent CO_2 emissions. Second, they engage in a competitive optimization game to understand how AI can be leveraged for environmental benefits, such as optimizing an electrical grid for minimal carbon output. Overall, the activity highlights that while AI consumes immense energy, it also has the potential to be a powerful tool for developing sustainable solutions, reinforcing the need for conscious, efficient design and use.

Developed by Actua, 2025.

Delivery Environment	Activity Duration	Intended Audience	Tech
In Person	60 minutes	Grades 5-7 (*Ages 10-13*)	**Facilitators should have access to a laptop, projector, speakers, and a screen or blank wall to project onto.** • Projector • Speaker • Screen/Blank Wall • Laptop/Tablet

Achievement Goals

Learning Goals

Following this activity, participants will:

- **Recognize** that AI systems (like Large Language Models) have a significant energy and carbon footprint, particularly due to training and data center operation.
- **Understand** that human consumption habits (e.g., streaming, social media) contribute to the demand for energy-intensive AI processing.
- **Identify** ways AI can be leveraged to optimize complex systems (like energy grids) for better environmental outcomes.
- **Explain** that developers are working to make AI itself more energy-efficient through hardware, models, and system scheduling.

Success Criteria

Following this activity, participants can express:

- **I can describe** the relationship between data centers, AI training, and carbon emissions.
- **I can compare** the carbon cost of simple, everyday tech actions versus large-scale AI operations.
- **I can demonstrate** how an AI-like process (optimization) can solve a challenge (energy distribution) by balancing cost and environmental impact.

Logistics (Timing, Group Sizing, Materials)

Section Title	Est. Time	Group Size	Materials
Opening Hook	10 minutes	*Whole Group*	**Facilitators** • The AI Energy Challenge - Activity Slide Deck (*Appendix C*)
Section 1: The Carbon Cost of AI	20 minutes	*Small Groups (3-4)*	**Facilitators** • The AI Energy Challenge - Activity Slide Deck (*Appendix C*) • 3.08 kg of pre-measured sugar **Per Small Group** • Kitchen Scales/Balances • Small Weigh Boats • Sugar ○ ***Note:*** Each group needs about half a kilogram. You can have groups measure the amounts in different orders to avoid needing to give each group half a kilogram each. • Teaspoons
Section 2: Optimization	20 minutes	*Small Groups (3-4)*	**Facilitators** • The AI Energy Challenge - Activity Slide Deck (*Appendix C*) • Timer **Per Group** • Energy Card Set (*Appendix C*) • Game Score Sheet (*Appendix C*) • Writing utensil • Calculator (optional)

Section Title	Est. Time	Group Size	Materials
Reflection & Debrief	10 minutes	*Whole Group*	**Facilitator** • Writing surface (e.g. whiteboard) • Writing utensil (e.g. marker)

Safety Considerations

Safety considerations have been provided below to support safety during this activity, however they are not necessarily comprehensive. It is important that you review the activity and your delivery environment to determine any additional safety considerations that you should be implementing for the delivery of these activities.

Emotional Safety

- This activity may lead to discussions about personal technology use and its environmental impact. Facilitators should emphasize that the goal is to raise awareness, not to assign blame or create shame for using technology.
- Facilitators should understand that participants have different lived experiences and prior knowledge about AI safety, AI, and digital citizenship. This activity may involve or lead to discussions of sensitive topics, such as ethical implications of AI. Facilitators should encourage open, respectful discussions and acknowledge all perspectives. Facilitators should always keep the participants' emotional safety in mind in these discussions, and defer to training from their institution and training received.

Ingestion/Sensitivity to Materials

- Emphasize that the use of sugar is a model for carbon emissions; do not allow consumption of the sugar used as a prop. Clearly state this is an analogy for a complex scientific topic.
- Sugar/Food Allergies: Use a clear label to indicate the material is not for consumption and check with participants beforehand for any severe allergies

or sensitivities related to the material (e.g., sugar, flour, or a non-food substitute) being used to model carbon.

Responsible Use of Equipment

- Ensure participants use the kitchen scales and measuring spoons carefully. Review the proper handling of materials beforehand.

Curriculum Links

This activity aligns with these components found in the UNESCO AI Competency Framework for Students:

Human-Centered Mindset: Human Agency

- Students are expected to be able to recognize that AI is human-led and that the decisions of the AI creators influence how AI systems impact human rights, human–AI interaction, and their own lives and societies. They are expected to understand the implications of protecting human agency throughout the design, provision and use of AI. Students will understand what it means for AI to be human-controlled, and what the consequences could be when that is not the case. (p. 29-30)

Human-Centered Mindset: AI Society Citizenship

- Students are expected to be able to build critical views on the impact of AI on human societies and expand their human-centred values to promoting the design and use of AI for inclusive and sustainable development. They should be able to solidify their civic values and the sense of social responsibility as a citizen in an AI society. Students are also expected to be able to reinforce their open-minded attitude and lifelong curiosity about learning and using AI to support self-actualization in the AI era. (p. 44-45)

Human-Centered Mindset: Human Accountability

- Learners are expected to be able to recognize that human accountabilities are the legal obligations of AI creators and AI service providers, and understand

what human accountabilities they should assume during the design and use of AI. They should also foster an awareness that human accountability is a legal and social responsibility when using AI to assist decisions that affect humanity and uphold the principle that humans should not cede the determination to AI when making high-stakes decisions. They are also expected to enhance their judgement on, and attitudinal resilience to, the illusive claims on the use of outputs and as well as predictions that AI can usurp humans' thinking and decision-making (p. 37-38).

Ethics of AI: Embodied Ethics

- Learners are expected to be able to develop a basic understanding of the ethical issues around AI, and the potential impact of AI on human rights, social justice, inclusion, equity and climate change within their local context and with regard to their personal lives. They will understand, and internalize the following key ethical principles, and will translate these in their reflective practices and uses of AI tools in their lives and learning: Do no harm, Proportionality, Nondiscrimination, Sustainability, Human determination, and Transparency (p. 31-32).

AI Techniques and Applications: AI Foundations

- Learners are expected to develop basic knowledge, understanding and skills on AI, particularly with respect to data and algorithms, and understand the importance of the interdisciplinary foundational knowledge required for gradually deepening understanding of data and algorithms. They should also be able to connect conceptual knowledge on AI with their activities in society and daily life, concretizing a human-centred mindset and ethical principles through an understanding of how AI works and how AI interacts with humans (p. 32-34).

This activity can be connected to the following subject areas:

Science

- Understanding the role of science and technology in society and daily life.
- Investigate and analyze how emerging technologies impact the environment, society, and the consumption of energy and natural resources.

Mathematics

- Use mathematical modelling to represent real-life situations, analyze patterns, make predictions, and draw conclusions.
- Apply mathematical concepts, including rates and ratios, to model and interpret real-world situations and relationships.

Community Connections

Community connections are suggestions from Actua, grounded in our approach, on how facilitators can adapt the activity to reflect the strengths, interests, and priorities of the community where or with whom it is delivered. Consider the following guiding questions to adapt the activity in meaningful ways:

- **Consult with community:** Are there local organizations, Knowledge Keepers, or community members who could contribute insight or context to this topic?
- **Draw on youth experience:** How can you give participants opportunities to share, reflect on, and apply how this learning is relevant to them or their community? Invite participants to identify what knowledge, who, and where they already learn from.
- **Integrate local examples:** How can you tailor this activity to local or regional interests, industries, or community priorities (e.g. land and environment, health, technologies)?

Activity Procedure

To Do in Advance

Section	Preparation

General	• **Think ahead and be ready to adapt:**
	  ◦ Determine your **delivery method** and leverage ideas from the delivery recommendations and adaptations sections.
	  ◦ While **estimated times** are provided, it will be helpful to think about how much time you would like to spend on different activities and discussions.
	  ◦ While **group sizes** (individual, pairs, groups) are suggested, many activities are flexible for whatever will work in your classroom.
	• **Prepare for the content:**
	  ◦ Have **answers in mind** to share with participants for the various reflection questions asked.
	  ◦ Examine the provided materials to determine if they are **suitable** for your participants.
	• **Equipment:**
	  ◦ Ensure device, screen and projector are set up.

Section 1: The Carbon Cost of AI	• Pre-measure the 3.08 kg of sugar for the large-scale demonstration to speed up the process. • Divide the remaining sugar into easy-to-access portions for the groups to measure their actions. • Label the material clearly as NOT FOR CONSUMPTION.
Section 2: Optimization	• Print and cut the Energy Card Sets (*Appendix C*) for each group. • Print a Game Score Sheet (*Appendix C*) for each group.

Opening Hook

1. Begin a "Go to the Side" Reflection Game using the The AI Energy Challenge - Activity Slide Deck (*Appendix C*).
2. Read the different actions and have participants indicate if they have done that action today (e.g., by raising hands, moving to one side of the room, etc.).
3. After the game, reflect with participants:
    a. Ask participants: “Do you think these activities require a lot of computing power?”
        i. ***Note:*** computing power is the measure of a computer system's ability to process data and perform calculations.
    b. Ask participants: “Where does that computing power come from?”
        i. Answer: Data centers (let participants know you’ll discuss this more soon).
4. Lead a brief brainstorming session:
    a. Ask participants: “What are some ways our personal tech consumption (streaming, social media, smart assistants) might be harmful to the environment?”
        i. Possible Responses: pollution from manufacturing, energy consumption.
    b. Ask participants: “Do you think all computing activities use the same amount of energy?”

Section 1: The Carbon Cost of AI

1. Use the AI Energy Challenge - Activity Slide Deck (*Appendix C*) to introduce **data centers**.
    a. They store the massive amounts of data and perform the complex calculations required for modern AI and technology.
    b. They consume vast amounts of electricity for computing and water for cooling, making them major contributors to carbon emissions.

2. Explain that training and running AI models consumes massive amounts of energy, which creates carbon emissions. We will use sugar to model the energy consumption.
3. Organize participants into groups of 3-4 and give them the balances, weigh boats, and sugar.
4. Instruct participants to measure out the following amounts, with 1 Wh of energy being represented by 1 gram of sugar
    a. AI summarizing text 1000 times - **7** Wh
    b. AI answering a simple question 1000 times - **23** Wh
    c. AI generating text 1000 times - **288** Wh
    d. AI generating images 1000 times - **519** Wh
    e. ***Note:*** these values are averages, and are subject to change with emerging technology
5. Ask participants: “Which activity used the most energy? Which used the least?”
    a. These numbers aren’t so high, right? But once you factor in the number of people using it, its impact is more startling.
6. Pull out your pre-measured 3.08 kg of sugar.
    a. Ask participants: “Guess what activity this might represent?”
        i. This represents everyone in Halifax, Nova Scotia, with a population of 439,819, using AI to summarize text just one time.
    b. For everyone in Canada to use AI to summarize just once? You would need 1400 cups (280 kg) of sugar.
    c. For everyone in Canada to generate one image? You would need 103,800 cups (20,760 kg)!
7. Explain that the scale of energy required by these systems is enormous, and humans need to design AI and its infrastructure to be as efficient as possible.

Section 2: Optimization

1. Using the AI Energy Challenge - Activity Slide Deck (*Appendix C*) as a guide, explain that the solution to the climate impacts probably isn't to fully stop using AI, but to use it smartly and responsibly.

    a. Briefly discuss other ways developers are reducing AI's carbon: more efficient models (using less computing power), more efficient components (hardware), and scheduling work (using power when it's cheapest/cleanest).

2. One of AI's biggest benefits is optimization- **finding the best possible solution to a problem within constraints**.
    a. Specifically, AI is used to manage the electrical grid, deciding which energy sources (solar, wind, gas) to activate to meet demand cheaply and cleanly.
3. Explain the rules of the Optimization Game:
    a. Each team gets a set of Energy Cards (**Solar, Wind, Battery, Gas**).
    b. Meet the Energy Demand number for the round by adding up Energy Contributions.
    c. **Score** = Total Cards Used + Total Environmental Cost.
4. Use the AI Energy Challenge - Activity Slide Deck (*Appendix C*) as a guide to do round 1 together.
    a. Give this round's Energy Demand number (**15**).
    b. Start a 1-minute timer. Groups have 1 minute to use their cards to meet the demand.
    c. An Energy Demand of 15 could be met by:
        i. Battery (3) + Solar (4) + Solar (4) + Solar (4)
        ii. Battery (3) + Battery (3) + Battery (3) + Wind (6)
        iii. Battery (3) + Wind (6) + Wind (6)
    d. Have them fill out their sheet with the environmental cost of their cards. For example, **Battery** + **Wind** + **Wind** is **1** + **2** + **2** = **5**.
    e. Have them fill out their sheet with the number of cards used (example: **Battery** + **Wind** + **Wind** would be 3).
    f. Have them add their scores from step c and step d and record it in total score (example: **Battery** + **Wind** + **Wind** total score would be 8).
    g. For this round, **Battery** + **Wind** + **Wind** was the combination that resulted in the lowest score.

5. Using the AI Energy Challenge - Activity Slide Deck (*Appendix C*) as a guide, repeat step 4 for the next rounds. These rounds have energy demand numbers of **16, 18, 19, 20, 22,** respectively.
6. Once all rounds are complete, ask participants: Why was it challenging to meet the demand while keeping the cost low? (It requires balancing two factors).
    a. Explain that this is exactly what AI can do for the real electrical grid thousands of times per second. It finds the optimal balance between meeting demand (the essential job) and minimizing cost/carbon (the constraint).

Reflection & Debrief

1. Draw a T chart on the whiteboard. As a group, list Environmental Costs of AI (e.g. data centers, training models, raw materials) on one side and the Environmental Benefits of AI (e.g. grid optimization, climate modeling, efficient design) on the other.
2. Debrief the following questions:
    a. Ask participants: “What surprised you most about the cost of AI? How does that make you feel about your own technology consumption habits?”
    b. Ask participants: “We learned that AI can cost a lot of energy, but it can also save a lot of energy. What do humans need to do to make sure AI helps the environment more than it harms it?”

Delivery Adaptations

How might you adapt the time, space, materials, group sizes, or instructions to make this activity more approachable or more challenging? **Modifications** are ways to make the activity more accessible, **extensions** are ways to make the activity last longer or more challenging.

Modifications

SECTION 1: THE CARBON COST OF AI

- Pre-measure the exact sugar amounts for the groups and label them by action, eliminating the need for scales/weighing. Focus the activity entirely on visual comparison and discussion.
- Measure another material, like sand or salt.

SECTION 2: OPTIMIZATION

- Remove or extend the time limit for finding their solutions for each round.

Extensions

SECTION 1: THE CARBON COST OF AI

- Have participants estimate the amount of sugar before they measure it. Introduce the concept of renewable energy credits (RECs) and how companies try to offset their massive carbon carbons.

SECTION 2: OPTIMIZATION

- It isn't always the best solution in the game to use 100% renewable energy, even if it's best for the environment. Have participants brainstorm why the number of sources of energy (represented by the number of cards used) would also be a factor in a real electric grid system.
    - Answers may include costs associated with sourcing and transporting energy from different locations, costs of working with multiple suppliers, unreliability of some energy sources.

References & Gratitude

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Appendices

Appendix A: Career & Mentor Connections

AI/MACHINE LEARNING ENGINEER

- Builds and trains artificial intelligence systems that can learn from data to make predictions or perform complex actions. They support the machine learning researcher.

COMPUTER PROGRAMMER

- Computer programmers write, modify, and test code and scripts in a variety of programming languages that allow computer software and applications to function properly.

MACHINE LEARNING RESEARCHER / DATA SCIENTIST

- Machine learning researchers or data scientists clean and interpret data while building models using a combination of that data and machine learning algorithms.

Appendix B: Background Information

DATA AND DATASETS

Data comes in many forms, including numbers, images, words, and other types of information. They provide insights about individuals, groups, and the world around us. It is a key resource for understanding patterns, making decisions, and predicting outcomes. Specifically, data can be used to:

- Identify correlations and trends that might not be obvious at first glance.
- Develop a deeper understanding of complex systems and behaviors.
- Inform decisions in real time or future planning.
- Make decisions based on past patterns or observed information.

Datasets are also essentials for creating algorithms, which are sets of instructions or rules that a computer follows to solve problems or make decisions. By analyzing and learning from data, algorithms can help humans understand and act on information more effectively.

Some applications of how data drives algorithms include:

- **Traffic and navigation apps:** Analyzing road and traffic patterns to suggest the fastest routes.
- **Outer space and weather systems**: Studying patterns to predict astronomical events or weather changes.
- **Shopping and media recommendations**: Using purchase and viewing history to suggest products or content that people may like.
- **Healthcare and diagnostics**: Analyzing medical data to identify health risks, suggest treatments, or support research.

COMPUTATIONAL THINKING AND ALGORITHMS

As is described by its name, computational thinking is an approach and a way of thinking. It is structured and systematic and therefore lends itself well to computer science. However, computational thinking is useful beyond computer science as an

approach to learning and problem solving. The four stages of computational thinking are:

- **Decomposition:** Breaking down the information into manageable parts.
- **Pattern Recognition:** What is the data doing?
- **Abstraction:** Identifying the rules that dictate the observed patterns.
- **Algorithm Design:** Developing the steps to solve the problem.

An **algorithm** is a set of steps to be taken in order to complete a task. Think of it like a recipe: a set of precise steps that, if followed correctly, will lead to a desired outcome, whether it's baking a cake or sorting a list of names.

In computer science, these are created with a programming language (a language that a computer can understand) in order to input commands and write complex programs. They are the logical blueprints that tell computers how to do things. Algorithms make up our search engines (like Google), our GPS systems, the video games we play and even control our homes.

ARTIFICIAL INTELLIGENCE

Artificial intelligence (AI) is a branch of Computer Science that deals with a machine's ability to simulate intelligent behaviour. This includes cognitive functions we associate with human minds, such as perceiving, reasoning, learning, and adapting. AI is becoming increasingly vital in our lives. From digital assistants, GPS navigation, and autonomous vehicles to tools like Siri/Google Home and generative AI tools (e.g., OpenAI's Chat GPT), its impact on our daily lives is growing. AI plays a crucial role in various aspects of work, enhancing efficiency, and taking on hazardous or monotonous tasks. As AI applications grow, discussions on AI ethics and responsible practices are increasingly important.

AI and How it Senses the World

For a machine or devices to be artificially intelligent, it can usually do some or all of these five things:

Day of AI. (2024). What is AI?: Ages 8-11 - Teacher Slides. dayofai.org/curriculum/basic-ai-literacy/

1. **Perceive:** How does AI notice things around it?
    a. Machines such as robots can “see” or “hear” their surroundings using special tools called **sensors**. Similar to how our eyes help us see and ears help us hear. These sensors help the robot understand what’s happening nearby.
2. **Reason:** How does AI decide what to do or how to react?
    a. Machines keep a mental picture of the world around them. This helps them understand the situation and make decisions, much like how you remember where you put your belongings so you can find them later.
3. **Learn:** How does AI acquire new knowledge?
    a. Machines learn by analyzing data, similar to how we get information from books or listening to others. The more data they receive, the better they become at understanding and solving problems.
4. **Interact:** How does the AI communicate or respond to its environment?
    a. Machines use different kinds of knowledge to engage naturally with people and surroundings. This involves understanding context, recognizing cues, and responding appropriately - similar to how humans adapt their communication depending on the situation.
5. **Impact:** How does AI affect individuals and society?
    a. AI can influence society in many ways, both positive and negative. It’s important to consider the ethical and social consequences of AI technologies, including how they shape behaviors, decisions, and everyday life.

PROMPT ENGINEERING

Prompt engineering is the process of carefully designing the input, or "prompt," that is given to a generative Artificial Intelligence (AI) model—such as a large language model (LLM) or an image generator—to get a desired or more accurate output.

Think of it as the new language of communication with AI. Just as programmers use a specific programming language to write an algorithm and instruct a computer, users use prompt engineering to effectively instruct a complex AI model.

The goal of prompt engineering is to maximize the AI's ability to reason, follow instructions, and produce high-quality, relevant results. A well-designed prompt often includes elements like:

- **Role-Playing:** Asking the AI to act as a specific persona (e.g., "Act as a historian," or "You are a professional editor").
- **Context**: Providing necessary background information the AI needs to understand the request.
- **Constraints:** Specifying limitations on the output, such as length, format (e.g., "in a bulleted list"), or tone (e.g., "use a professional tone").
- Examples (Few-Shot Learning): Giving the AI a few examples of desired input/output pairs so it can better grasp the pattern and task.

Prompt engineering is important because AI models are sensitive to the phrasing of the input. A poorly worded or vague prompt can lead to an irrelevant, confusing, or biased response—similar to the "data bias" problem mentioned earlier, but stemming from the user's input rather than the training data. Prompt engineering is a skill that directly addresses the "Interact" capability of AI, allowing users to guide the AI to meet their specific needs, thereby making the use of generative AI tools more effective and efficient.

DATA CENTRES

The modern internet is sustained by a vast, global network of hyperscale data centers, which are **industrial-scale facilities that house the computational infrastructure required for cloud computing, big data analytics, and the training of large language models** (LLMs). While often abstracted as "the cloud," these facilities represent a significant concentration of physical resources and energy demand. As of 2026, the rapid integration of generative AI has fundamentally altered the energy profile of these centers; AI-specific workloads require high-density racks that consume significantly more power per square foot than traditional web hosting. This has forced a shift in thermal management strategies, moving from traditional air-cooling to sophisticated liquid-to-chip cooling systems designed to manage the extreme heat generated by modern GPUs.

From a sustainability perspective, data centers present a triple threat: electricity consumption, water usage, and embodied carbon. They currently account for an estimated 2–3% of global electricity demand, with some projections suggesting this could double within the decade. Beyond electricity, the "water footprint" of computing is a growing concern, as many facilities rely on evaporative cooling systems that consume millions of gallons of potable water daily, often in water-stressed regions. Furthermore, the lifecycle of the hardware itself contributes to the environmental burden; the rapid rate of "compute" obsolescence leads to a continuous cycle of decommissioning hardware, contributing to the global e-waste crisis and necessitating high levels of emissions generated during the mining and manufacturing of the servers themselves.

RENEWABLE ENERGY CREDITS

Renewable Energy Credits (RECs) serve as the primary market-based instrument for tracking and trading the environmental attributes of renewable electricity. When a certified renewable energy facility produces 1 Megawatt-hour (1 MWh) of electricity, two distinct products are created: the physical electricity that enters the grid and the REC, which represents the legal right to claim that energy as "green." This separation allows organizations to support renewable energy generation even if their local utility

provider relies on a fossil-fuel-heavy mix. In corporate sustainability reporting, RECs are used to mitigate the indirect greenhouse gas emissions associated with the purchase of electricity, steam, heat, or cooling.

However, the academic and regulatory critique of RECs focuses on the concept of additionality: the question of whether a company's purchase of a credit actually results in the construction of new renewable energy capacity that wouldn't have existed otherwise. Critics argue that "unbundled" RECs - credits bought from existing projects in different geographic regions - often fail the additionality test and may facilitate "greenwashing" by allowing companies to claim carbon neutrality without changing their actual energy consumption patterns. Consequently, the leading edge of corporate climate strategy in 2026 has shifted toward 24/7 Carbon-Free Energy (CFE). This rigorous framework requires that every megawatt-hour of electricity consumed by a data center be matched by carbon-free energy produced on the same local grid, at the same time, moving beyond the "accounting fix" of annual REC matching toward true grid decarbonization.

ETHICS AND AI

Artificial intelligence offers powerful tools and new possibilities. As these systems learn from data, make decisions, and shape our world, it is important to consider their ethical impacts.

Actua has developed a resource (*Appendix C*) to support facilitators in leading discussions with youth about ethics and responsible AI use. Facilitators are encouraged to engage youth in meaningful conversations that empower them to think critically about how AI is designed, used, and experienced in the world around them. This resource emphasizes human agency and responsibility, supports values-based reflection, and creates space for curiosity, dialogue, and informed decision-making as digital citizens.

Appendix C: Additional Resources

GENERAL

Activity Slide Deck

- The AI Energy Challenge - Activity Slide Deck
    - ***Note:*** This link will automatically download to your device.

Supporting Resource

- AI in Context: Responsibility and Ethics in Artificial Intelligence

SECTION 2: OPTIMIZATION

Activity Pages:

- Game Score Sheet (refer below)
- Energy Game Card Set (refer below)

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Game Score Sheet

Round	Energy Demand	Environmental Cost	Number of Cards Used	Total Score (Environmental Cost + Number of Cards Used)
1	*15*			
2				
3				
4				
5				
6				

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The AI Energy Challenge

Game Cards

Wind

Energy Contribution: **6**

Environmental Cost: **2**

Battery

Energy Contribution: **3**

Environmental Cost: **1**

Solar

Energy Contribution: **4**

Environmental Cost: **2**

Gas

Energy Contribution: **10**

Environmental Cost: **3**

Wind

Energy Contribution: **6**

Environmental Cost: **2**

Battery

Energy Contribution: **3**

Environmental Cost: **1**

Solar

Energy Contribution: **4**

Environmental Cost: **2**

Gas

Energy Contribution: **10**

Environmental Cost: **3**

Wind

Energy Contribution: **6**

Environmental Cost: **2**

Battery

Energy Contribution: **3**

Environmental Cost: **1**

Solar

Energy Contribution: **4**

Environmental Cost: **2**

Gas

Energy Contribution: **10**

Environmental Cost: **3**