



**Task Title: Environmental Impact of Artificial Intelligence (AI)**

OALCF Cover Sheet – Practitioner Copy

**Learner Name:** \_\_\_\_\_

**Date Started:** \_\_\_\_\_

**Date Completed:** \_\_\_\_\_

**Successful Completion:** Yes ☐ No ☐

**Goal Path:** Employment ☐ Apprenticeship ☐

Secondary School ☐ Post Secondary ☐ Independence ☐

**Task Description:** The learner will watch a video about the environmental impact of Artificial Intelligence (AI) and write paragraphs expressing their opinion on this topic.

**Main Competency/Task Group/Level Indicator:**

- Find and Use Information/Extract info from films, broadcasts and presentations/A3
- Communicate Ideas and Information/Write continuous text/B2.3
- Use Digital Technology/D.2 (optional)

**Materials Required:**

- Pen/pencil and paper and/or digital device
- Computer

## Learner Information

Artificial Intelligence (AI) is a rapidly growing technology that is being used in schools and workplaces around the world. While it has many advantages for learning and working, AI also uses a tremendous amount of energy which may have devastating consequences for our planet.

Watch “The Growing Environmental Impact of AI Data Centers’ Energy Demands” (video until 4:53).

<https://www.youtube.com/watch?v=-sNKfRq1oKq&t=1s>

## Work Sheet

**Task 1: Describe how AI is impacting the environment.**

Answer:

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**Task 2: Describe the public health effects of AI's energy demands.**

Answer:

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**Task 3: Describe how Ireland has begun regulating data centre energy use to protect its energy grid.**

Answer:

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**Task 4: Describe what companies like Amazon and Google are doing to offset the increased energy they require for AI.**

Answer:

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**Task 5: The video ends with the statement: "A request made on OpenAI's ChatGPT consumes almost ten times the amount of electricity compared to a Google Search".**

**Write an opinion paragraph of at least five (5) sentences describing whether you think this is a problem or not. To respond to this question, you may conduct an internet search to read more about "pros and cons" of AI.**

Answer:

## Answers

### **Task 1: Describe how AI is impacting the environment.**

Answer: AI relies on data centres which consume large amounts of electricity and are, therefore, contributing to increased demand for power. Increased power use contributes to increases in global emissions. The power needed to support AI is growing faster than global energy supplies and capacities.

### **Task 2: Describe the public health effects of AI's energy demands.**

Answer: Public health effects are local and global. At a global level, increased energy demand and consumption raises CO<sup>2</sup> levels in the air and increases temperatures. This can lead to health issues for individuals as well as greater local risks for extreme weather events.

### **Task 3: Describe how Ireland has begun regulating data centre energy use to protect its energy grid.**

Answer: Ireland has proposed that when a new data centre is built, it brings as much additional capacity to the energy grid as it takes away.

### **Task 4: Describe what companies like Amazon and Google are doing to offset the increased energy they require for AI.**

These companies are some of the largest buyers of clean, renewable energy sources. Purchasing additional energy for the energy grid is an attempt to offset the additional energy they are using for AI data centres.

(Their AI activities increase demand; they offset this by trying to increase supply through renewable energy sources. The criticism is that these purchases are not always in the same locations/countries as the data centres.)

**Task 5: The video ends with the statement: “A request made on OpenAI’s ChatGPT consumes almost ten times the amount of electricity compared to a Google Search”.**

**Write an opinion paragraph of at least five (5) sentences describing whether you think this a problem or not. To respond to this question, you may conduct an internet search to read more about “pros and cons” of AI.**

Answers will vary. Answers based on the video may include:

- Global temperatures are already rising much faster than scientists expected, so it is not a good idea to continue to use AI and put more demand on energy infrastructure which contributes to an increase in emissions, raising global temperatures.
- AI power grids need energy when renewable sources (wind, solar, etc.) are not available, so increased use of AI puts even more demand on fossil fuel energy sources.

Answers based on the learner’s understanding and/or internet search on the use of AI may include:

- AI is worth the energy demand if countries regulate its uses (e.g. Ireland regulation as described in Task 3).
- AI is worth the energy demand if we invest more in renewable energy sources to offset the increase in demand.
- AI is not worth the environmental impact, as it has the potential to eliminate jobs, contributing to unemployment.
- AI should not be used at all, as recent studies are showing less cognitive engagement and brain activity when using AI than when working through problems without the use of AI.

### Performance Descriptors

Levels	Performance Descriptors	Needs Work	Completes task with support from practitioner	Completes task independently
A3	extract info from films, broadcasts and presentations			
B2.3	writes texts to present information, summarize, express opinions, present arguments, convey ideas or persuade			
	manages unfamiliar elements (e.g. vocabulary, context, topic) to complete tasks			
	selects and uses vocabulary, tone and structure appropriate to the task			
	organizes and sequences writing to communicate effectively			
	uses a variety of vocabulary, structures and approaches to convey main ideas with supporting details			
D.2	begins to identify sources and evaluate information			
	performs simple searches using keywords (e.g. internet, software help menu)			

Task Title: EnvironmentalImpactOfAI\_EAP\_A3\_B2.3

This task: Was successfully completed ☐ Needs to be tried again ☐

Learner Comments:

Instructor (print):

Learner (print):