

Central Africa: Niyah Needs Energy | Worksheet Packet

Geography Focus

Map of Africa and the Middle East



Map of Africa. © Wikimedia Commons contributors. Licensed under CC BY-SA 3.0.

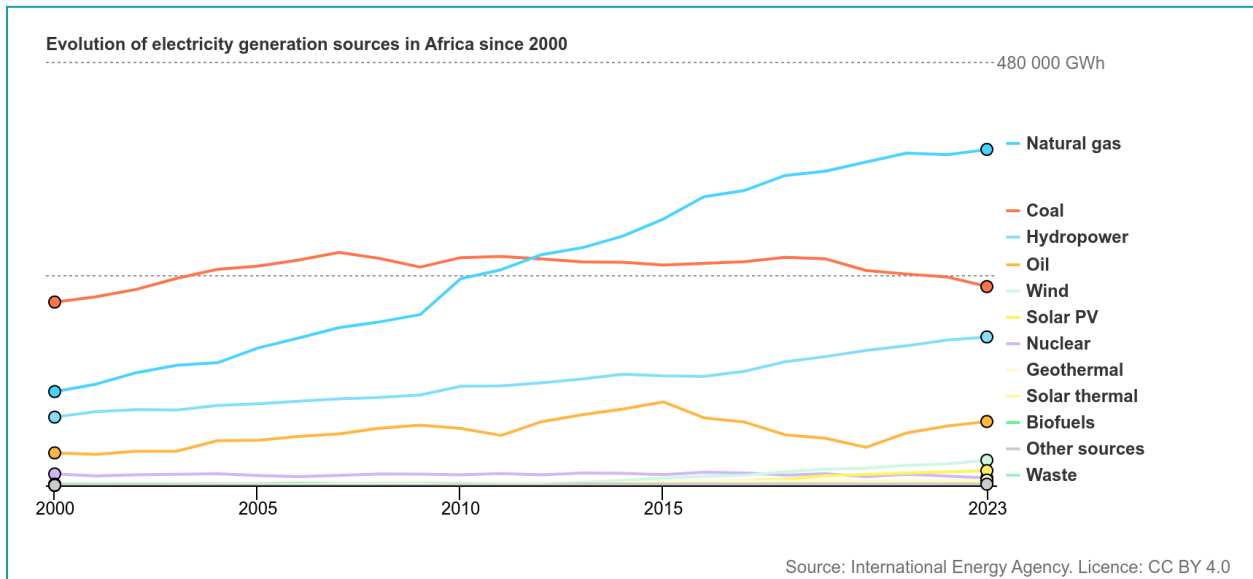
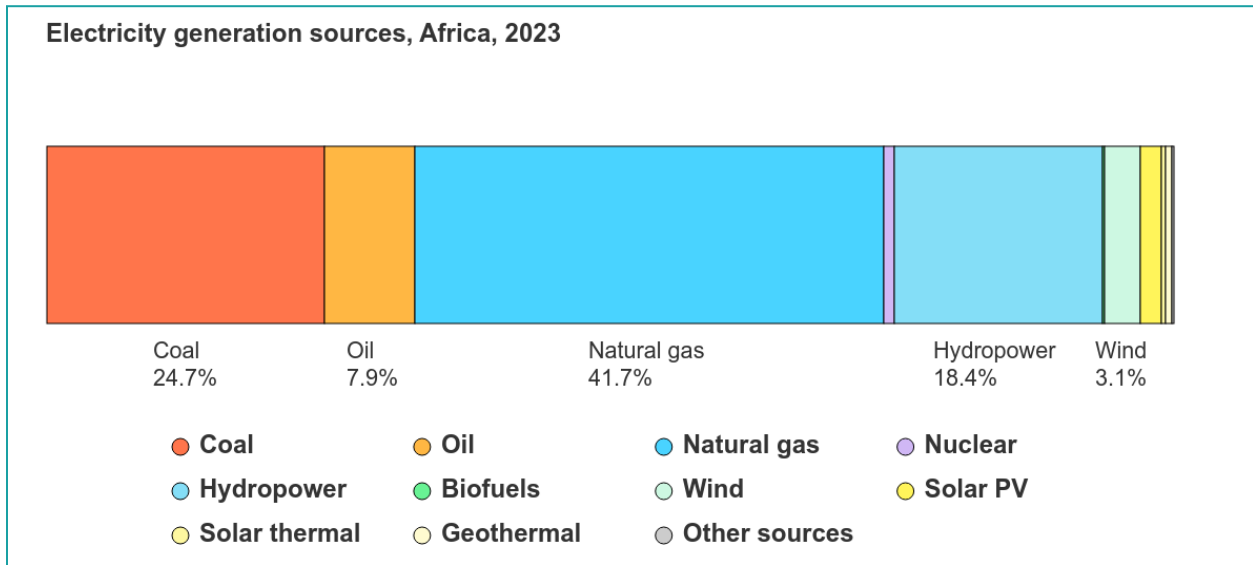
Directions:

- ☐ Label the continent of Africa
- ☐ Label the Democratic Republic of the Congo (DRC)
- ☐ Label the Atlantic Ocean, Indian Ocean, Red Sea, and Mediterranean Sea
- ☐ Label each neighboring country of the DRC



☐ Label North, East, West, and South somewhere on the map

Africa 2023 Electricity Generation Sources



IEA 2023; Electricity generation sources, Africa, [iea.org](https://www.iea.org), License: CC BY 4.0

Answer based on the charts above:

- List the top three electricity sources in Africa in 2023 and their percentages.
 _____ (____%) _____ (____%) _____ (____%)
- Which source has increased the most since 2000? _____
- Which source shows a slight decline over time? _____
- Using the 2023 bar chart, estimate the combined percentage from fossil fuels (coal + oil + natural gas).
 About _____%
- Using the 2023 bar chart, estimate the combined percentage from non-fossil sources (hydro + nuclear + wind + solar + bioenergy).
 About _____%

Vocabulary Focus & Sentence Writing

Word Bank:

W.H.O.	poverty	Fossil fuel	Nuclear power	Congo region	Sub-Saharan Africa
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Match the term to its definition:

1. _____ A method of generating electricity by using energy released from atomic nuclei, typically through fission in a reactor.
2. _____ A geographic region of Africa lying south of the Sahara Desert.
3. _____ A specialized agency of the United Nations responsible for coordinating international public health.
4. _____ A carbon-based energy source formed from ancient organic matter, such as coal, oil, or natural gas
5. _____ A region of Central Africa centered on the Congo River basin and covered largely by tropical rainforest.
6. _____ A condition of economic hardship marked by insufficient income or resources to meet basic living needs.

Write two sentences using any two words from the word bank above. Try to connect your sentence to the story.

7. _____

8. _____

Cause & Effect Chart

Use the chart below to track 2-3 challenges from the story. For each challenge, identify the broader system or cause behind it (such as lack of infrastructure, economic barriers, or environmental pressures) and describe its effect on Niyah, her family, or her community. Refer to the story for examples like collecting wood, health risks from smoke, or high energy costs.

Challenge	Cause Behind It	Effect on the Character
<i>Example: Deforestation and environmental strain</i>	<i>Lack of energy infrastructure leads to needing wood for fuel</i>	<i>Niyah and her family spend many hours collecting firewood, getting closer to the wildlife boundaries.</i>

Reading Comprehension and Personal Reflection

Answer the following questions based on your reading.

1. Describe how the lack of electricity affects Niyah's daily routine and her family's health.

2. Explain the environmental challenges Niyah's community faces due to their energy needs.

3. Compare Niyah's life in the village to her cousin Zuri's life in the city. What does this show about the cycle of poverty and energy costs in the Congo region?

Long Answer Response:

4. Joseph learns about different energy sources (e.g., fossil fuels, nuclear power, hydropower) and wants to bring reliable energy to villages like Niyah's. Describe one challenge from the story caused by lack of electricity (e.g., education or health). Explain how poverty and high costs contribute to this as a systemic issue in Sub-Saharan Africa. Finally, propose how a specific energy source could address it, and predict its potential benefits and drawbacks for Niyah's community.

Personal Reflection Prompt:

5. How does Niyah's story make you think differently about your own access to energy and what you take for granted in your daily life?

Niyah Needs Energy | Answer Key

Geography Focus

Map of Africa and the Middle East

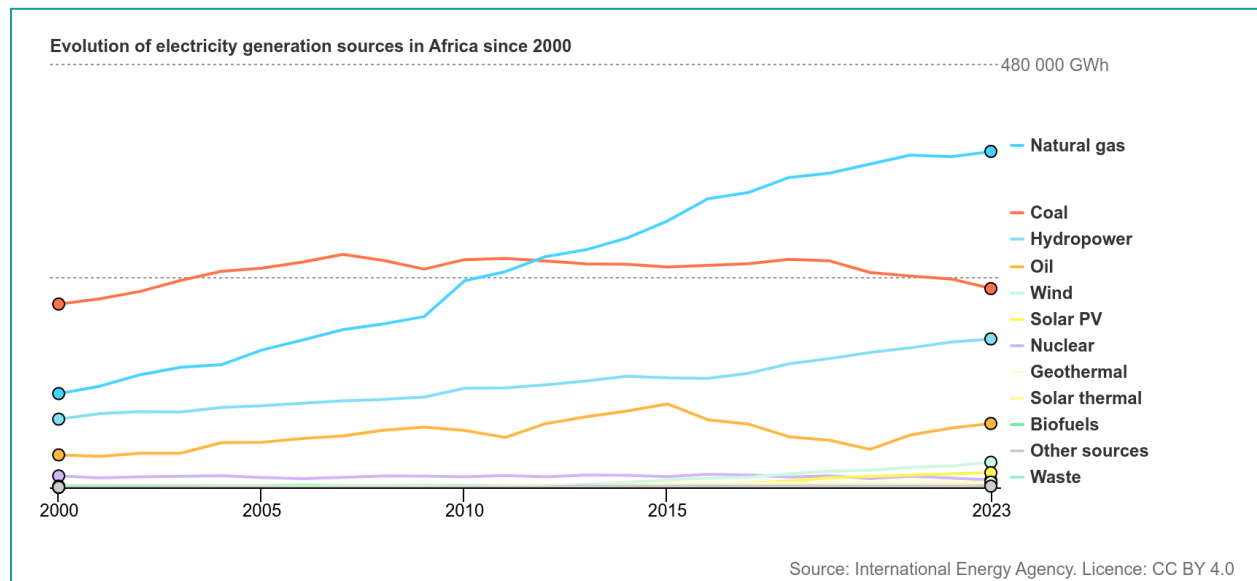
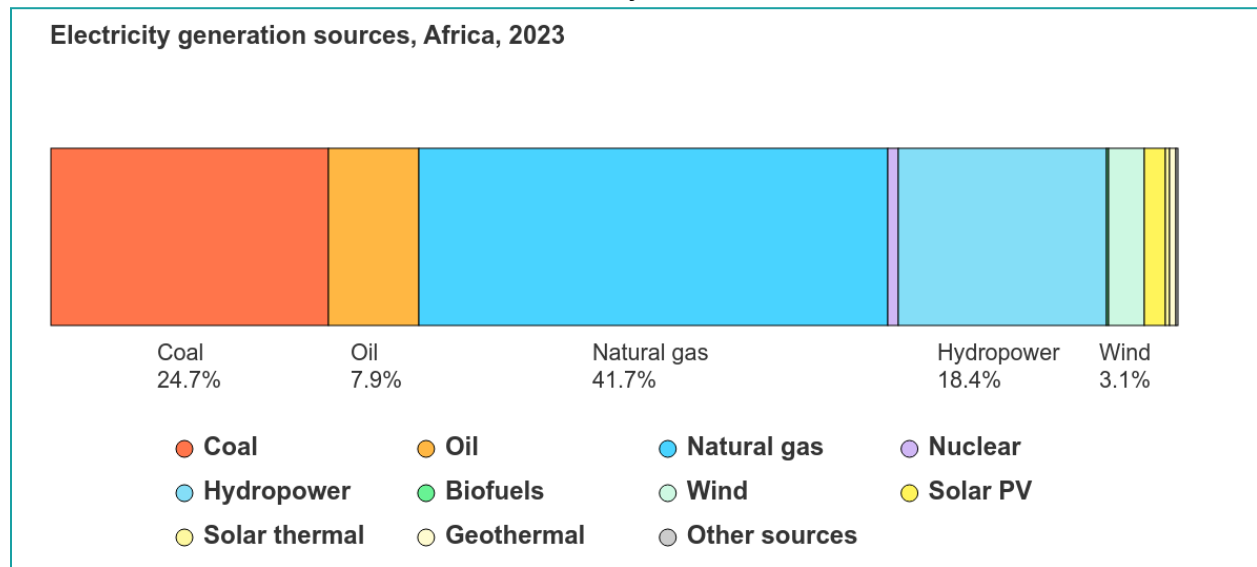


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Directions:

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Africa 2023 Electricity Generation Sources



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Answer based on the charts above:

- List the top three electricity sources in Africa in 2023 and their percentages.
Natural gas (41.7%) Coal (24.7%) Hydropower (18.4%)
- Which source has increased the most since 2000? **Natural gas**
- Which source shows a slight decline over time? **Coal or Oil (both are acceptable)**
- Using the 2023 bar chart, estimate the combined percentage from fossil fuels (coal + oil + natural gas).
 About **approximately 75 %**
- Using the 2023 bar chart, estimate the combined percentage from non-fossil sources (hydro + nuclear + wind + solar + bioenergy).
 About **approximately 20-25%**

Vocabulary Focus & Sentence Writing

Word Bank:

W.H.O.	poverty	Fossil fuel	Nuclear power	Congo region	Sub-Saharan Africa
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Match the term to its definition:

1. **Nuclear power** A method of generating electricity by using energy released from atomic nuclei, typically through fission in a reactor.
2. **Sub-Saharan Africa** A geographic region of Africa lying south of the Sahara Desert.
3. **W.H.O.** A specialized agency of the United Nations responsible for coordinating international public health.
4. **Fossil fuel** A carbon-based energy source formed from ancient organic matter, such as coal, oil, or natural gas
5. **Congo region** A region of Central Africa centered on the Congo River basin and covered largely by tropical rainforest.
6. **Poverty** A condition of economic hardship marked by insufficient income or resources to meet basic living needs.

Write two sentences using any two words from the word bank above. Try to connect your sentence to the story.

7. Sentences will vary. Example: **Poverty** can limit access to reliable electricity, which makes it harder for families to save time for school.
8. Example: The **W.H.O.** warns that smoke from indoor fires can harm health.

Cause & Effect Chart

Use the chart below to track 2-3 challenges from the story. For each challenge, identify the broader system or cause behind it (such as lack of infrastructure, economic barriers, or environmental pressures) and describe its effect on Niyah, her family, or her community. Refer to the story for examples like collecting wood, health risks from smoke, or high energy costs.

Challenge	Cause Behind It	Effect on the Character
<i>Example: Deforestation and environmental strain</i>	<i>Lack of energy infrastructure leads to needing wood for fuel</i>	<i>Niyah and her family spend many hours collecting firewood, getting closer to the wildlife boundaries.</i>
Health risks from indoor smoke	Lack of electricity, needing to cook indoors because of humidity	Increased breathing problems, long-term health risks for Niyah and her community
Unreliable/Expensive electricity in the city	Economic barriers, stunted community development	Zuri's family sometimes loses power and must rely on generators which are noisy and polluting
Lack of electricity	Cycle of poverty, unaffordable energy, stunted community development	Endangered habitats, potential legal risks, long-term loss of forests, extra time collecting firewood, etc.

Reading Comprehension and Personal Reflection

Answer the following questions based on your reading.

1. Describe how the lack of electricity affects Niyah's daily routine and her family's health.

Sample answer:

Without electricity, Niyah's family must spend a large part of the day collecting water and gathering firewood just to cook and meet basic needs. Cooking with wood inside exposes the family to heavy smoke, which can damage lungs and create serious long-term health problems.

2. Explain the environmental challenges Niyah's community faces due to their energy needs.

Sample answer:

Because families need wood for cooking fuel, trees are cut faster than they can regrow. Over time, this leads to deforestation and pushes people closer to protected wildlife

areas, increasing pressure on habitats and causing conflict between human survival needs and conservation.

3. Compare Niyah's life in the village to her cousin Zuri's life in the city. What does this show about the cycle of poverty and energy costs in the Congo region?

Sample answer:

Niyah's village lacks reliable electricity, so her family depends on wood and spends hours on survival tasks. Zuri's city has electricity, but it is expensive or inconsistent, so even city life can include power shortages and generator use. This shows a cycle where poverty limits access to reliable energy, and unreliable or costly energy makes it harder for families to improve their situation.

Long Answer Response:

4. Joseph learns about different energy sources (e.g., fossil fuels, nuclear power, hydropower) and wants to bring reliable energy to villages like Niyah's. Describe one challenge from the story caused by lack of electricity (e.g., education or health). Explain how poverty and high costs contribute to this as a systemic issue in Sub-Saharan Africa. Finally, propose how a specific energy source could address it, and predict its potential benefits and drawbacks for Niyah's community.

Sample answer:

One challenge caused by lack of electricity is limited education. In Niyah's village, the book explains that children's work is necessary for the family's survival, so there is no school and Niyah spends much of her time doing tasks like collecting water, gathering wood for cooking, and working on the farm. This affects her future because even though she has dreams, she is not free to pursue them when so much time is required just to meet basic needs. The story also shows that cost is a barrier even where electricity exists: Zuri's family in the city sometimes cannot afford steady power, and the text notes that connecting a home to electricity can be expensive. Together, these examples support the idea that without reliable and affordable energy, families remain stuck using time-consuming methods that limit health, education, and opportunity.

A possible solution is expanding nuclear power, because nuclear plants can produce large amounts of reliable electricity with low air pollution during operation. If steady power reached villages like Niyah's, families could shift away from cooking with wood, reducing indoor smoke and improving health. Reliable electricity could also save time (less fuel gathering), support schools with lighting and resources, and help small businesses operate more consistently. However, nuclear power has major barriers: it is expensive to build, requires high-level technical expertise, strong safety regulation, and a long timeline.

(Other acceptable energy-source choices: natural gas, solar, nuclear—students just need to argue tradeoffs responsibly.)

Personal Reflection Prompt:

5. How does Niyah's story make you think differently about your own access to energy and what you take for granted in your daily life?

Sample answer:

Niyah's story reminds me that I often assume electricity will always be there for lights, cooking, and schoolwork. It made me realize that reliable energy saves time and protects health, and that without it, everyday tasks become harder and future goals become more difficult to reach.