

# Powering Our Community

## 8.2 Renewable Energy and Reduced Environmental Impact

Goal: Compare renewable energy options, evaluate trade-offs, and recommend a realistic solution. Use relative clauses to communicate your ideas.

Team members:

---

**Part 1** Read the fictional community scenario with your team. Underline the details that may influence the decision.

| COMMUNITY PROFILE: RÍO VERDE |                                                                                                     |
|------------------------------|-----------------------------------------------------------------------------------------------------|
| Location and needs           | A growing town needs cleaner electricity for its school and public buildings.                       |
| Natural conditions           | Many sunny days; occasional strong winds; a river that supports fish and nearby farms.              |
| Resources and priorities     | Limited installation budget; protecting the river ecosystem is a priority; reliable energy matters. |

Three possible solutions:

| SOLAR                                                                                                            | WIND                                                                                                        | HYDROELECTRIC                                                                                                               |
|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Uses sunlight to produce electricity. Works best with strong sunlight; panels need space and initial investment. | Uses moving air to generate electricity. Works best where wind is consistent; turbines need suitable sites. | Uses moving water to produce electricity. Output depends on water availability; some projects can disrupt river ecosystems. |

**Part 2** Complete the chart using the information above. Consider both environmental benefits and practical limitations.

| Energy source | One possible benefit | One limitation / concern |
|---------------|----------------------|--------------------------|
| Solar         |                      |                          |
| Wind          |                      |                          |
| Hydroelectric |                      |                          |

Which TWO facts about Río Verde should influence your final decision the most? Explain why.

---

---

**Part 3** Discuss each question as a team. Your answers should show reasoning, not just a preference.

1. Which energy source is the strongest option for Río Verde? Use at least two details from the community profile.

---

---

---

2. Why might another energy source be less suitable? Refer to an environmental or practical limitation.

---

---

3. Can a renewable energy project still harm the environment? Explain using one example from the scenario.

---

---

**Part 4** Use who, which, or that to write **THREE** accurate sentences about your decision. Each relative clause should add meaningful information (how a technology works, who benefits, or what needs protection).

Example: Solar panels are devices that convert sunlight into electricity.

1. Our chosen solution:

---

2. A benefit or a group of people involved:

---

3. A limitation or an environmental concern:

---

### Mini project instructions

Create a poster with your team. Include: the chosen energy source, why you chose it, ONE limitation, and at least THREE sentences with relative clauses. Base your poster on your analysis above.