

Science Fair Logbook 2026

Gurshan Nanreh

Topic: Hydro energy vs Wind energy

Notes:

<https://docs.google.com/document/d/1HjfmUOgKxDMnObJtJe4ra7qxHMo8DNWy1lod9vyfn7o/e/dit?tab=t.0>

Handbook: <https://www.cysf.org/wp-content/uploads/Judges-Handbook-English.pdf>

Notes: I narrowed my ideas down to the ones I was most interested in:

1. Hydro energy vs wind energy
2. Analyzing Biodegradable Plastics
3. Smart Insulation Material

Then, I watched some videos regarding each idea.

Feb 6, 2026

Idea:	Considerations:	Sources:
1. Analyzing Biodegradable Plastics	-is good for environment -helpful to others for good health -disposal in the environment	https://www.tainstruments.com
2. Smart Insulation Material	-is good for all environmental conditions such as: -temperature -moisture -light -economic or affordable	https://focusonenergy.com
3. Hydro energy vs. wind energy	-environment impact -human health -cost -reliability	https://www.innovationnewsnetwork.com

I picked my idea of: Hydro energy vs Wind energy.

Research

First I searched the topics which I should do the research on.
Those were:

1. Impact on the environment and ecosystem. Jan 10,2026

<https://gocontractor.com/resource/hydropower-impact-environment-canada/>

<https://royalsocietypublishing.org/rspb/article/284/1862/20170829/84636/Bird-and-bat-species-global-vulnerability-to>

2. Public health and community (social and policy factors). Jan 15,2026

<https://diversedaily.com/the-health-impacts-of-dam-construction-and-operation-on-local-communities/>

3. Life cycle global warming emissions. Jan25,2026

<https://www.hydropower.org/factsheets/greenhouse-gas-emissions>

4. Cost and economic analysis. Jan 30,2026

<https://fdehydro.com/hydropower-project-costs/#:~:text=How%20does%20hydropower's%20cost%20compare,in%20the%20clean%20energy%20transition>

<https://www.energy.gov/eere/wind/windexchange/economics>

5. Sustainability & Future Use (stability and reliability). Feb 10,2026

<https://www.carboeurope.org/hydropower-vs-wind-energy/>

Following are the website links I used for my research

<https://gocontractor.com/resource/hydropower-impact-environment-canada/>

<https://royalsocietypublishing.org/rspb/article/284/1862/20170829/84636/Bird-and-bat-species-global-vulnerability-to>

<https://letstalkscience.ca/educational-resources/stem-explained/how-do-wind-farms-affect-birds-and-bats> <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2023RG000819>

<https://www.ucs.org/resources/environmental-impacts-wind-power#references>

<https://www.hydropower.org/factsheets/greenhouse-gas-emissions>

<https://www.hydropower.org/blog/carbon-emissions-from-hydropower-reservoirs-facts-and->

myths <https://iere.org/how-does-wind-energy-help-the-environment/>
<https://energy-solutions.co/articles/sub/offshore-wind-economics-2026>
<https://www.energy.gov/eere/wind/windexchange/economics>
<https://docs.nrel.gov/docs/fy25osti/91775.pdf>
<https://fdehydro.com/hydropower-project-costs/#:~:text=How%20does%20hydropower's%20cost%20compare,in%20the%20clean%20energy%20transition>
<https://www.carboeurope.org/hydropower-vs-wind-energy/>
<https://diversedaily.com/the-health-impacts-of-dam-construction-and-operation-on-local-communities/>

I finished my research on Feb 20,2026 and started working on topic “Method”

Method: Feb 25,2026

Problem: Feb 27,2026

Conclusion: Feb 28,2026

Data: March 2,2026

Presentation: March 3, 2026