

# Electrical Energy and Energy Transformation Project

Your final project will consist of 3 major parts:

- 1) Identification of energy transformations on worksheets – **Due on or before Friday, January 12. Value: 8**
- 2) Choosing one of the four energy production methods on the worksheets, you will research and write a paper, create a power point, or explain to me in an interview how the electrical energy is produced using this method, what makes it “green”, and the pros and cons of this method of electricity production.  
**Selection of the source due on or before Friday, January 12.**  
**Paper/Power Point/Interview due on or before Thursday, January 18.**  
**Value: 20**
- 3) Create a poster, power point, or infographic that informs people in New Brunswick about the pros of your energy source, including the advantages over burning fossil fuels.  
**Due on or before Wednesday, January 24.**  
**Value: 12**

## Electrical Energy Production

You will choose one of the four types of electrical energy generation (hydro-electric, wind, solar or nuclear) **or another green energy of your choosing** (must be approved).

Your presentation of choice (written paper, power point or interview) should include each of the following:

- 1) An explanation of how the energy is produced, including where the energy originally comes from, and how the energy gets transformed to electrical energy step by step (include the energy transformations that take place throughout the process).
- 2) An explanation of what makes this process “green”. State whether the source of energy is renewable or not and why.
- 3) What are some of the benefits (pros) of this source of energy in NB? What are some of the drawbacks (cons).
- 4) A list of references, with the full addresses of the websites used (good example: <https://www.energy.gov/eere/wind/how-do-wind-turbines-work> , bad examples: Google or Wikipedia).

## Persuasive Presentation

For your chosen energy source, you will create a poster (on 8 ½" x 11" paper), power point or infographic (see <https://venngage.com/blog/what-is-an-infographic/#edu> for examples and tips). This presentation should provide evidence of the benefits of your chosen energy source for the people of New Brunswick. This should include:

- 1) How the energy source reduces greenhouse gases and the cost (per kWh for example) to produce this energy.
- 2) The pros and cons of this source of energy (when it is useful, when it is not, where it could be used in NB, whether it is more costly or less costly than fossil fuels)
- 3) Evidence to attempt to persuade people that this source of energy is a good investment for New Brunswick.
- 4) References provided at the bottom of the poster or infographic, or the last slide of the power point.

## Check List:

- 1) I have submitted my worksheets (**due Friday, January 12**) \_\_\_\_\_
- 2) I have submitted my selection for my choice of green energy and had it approved (**due Friday, January 12**) \_\_\_\_\_
- 3) I have read the rubrics for the Electrical energy production presentation (suggested prior to **Thursday, January 18**) \_\_\_\_\_
- 4) I have covered all aspects of the Electrical energy production presentation \_\_\_\_\_
- 5) I have included references in my paper, power point or notes (for an interview) \_\_\_\_\_
- 6) I have submitted my Electrical Energy Production presentation (**due Thursday, January 18**) \_\_\_\_\_
- 7) I have covered all aspects of the Persuasive presentation \_\_\_\_\_
- 8) I have submitted my Persuasive presentation (**due Wednesday, January 24**) \_\_\_\_\_

**Rubric:****Worksheets:**

	<b>0</b>	<b>1</b>	<b>2</b>
Identifying Energy Transformations (x 4 worksheets)	Did not correctly identify any energy transformations on the worksheet	Correctly identifying 1-2 energy transformations on the worksheet	Correctly identifying at least 3 energy transformations on the worksheet
<b>Total:</b>			<b>/8</b>

**Electrical Energy Production:**

	<b>0</b>	<b>1-2</b>	<b>3-4</b>
Discussion of energy production	No discussion of how the energy is produced from this source.	Fair discussion. Missing key steps in how the electricity is produced.	Good to excellent discussion of how the electrical energy is produced
Discussion of energy transformations	No discussion of how the energy is transformed.	Fair discussion. Missing major transformations.	Good to excellent discussion. Most or all key transformations are discussed
	<b>0</b>	<b>1-2</b>	<b>3</b>
Explanation of how the energy is green and whether it is renewable or not	No understanding of green and renewable indicated	Explains how the energy is green with explanation or whether it is renewable or not with explanation. Or both without correct explanation	Correctly explains how the energy is green and whether it is renewable or not.
Discussing pros (benefits) of this energy source	No understanding or discussion of the benefits	Discusses one or two benefits, with explanation and some detail	Discusses two benefits with good detail or three benefits with some detail
Discussing cons (drawback) of this energy source	No understanding or discussion of the drawbacks	Discusses one or two benefits, with explanation and some detail	Discusses two benefits with good detail or three benefits with some detail
Included references (and notes if choosing an interview)	No references or notes	Minimal references, or references without including full web addresses. Notes included if choosing an interview	Complete references with full addresses. Notes included if choosing an interview.
<b>Total:</b>			<b>/20</b>

**Persuasive Presentation:**

	<b>0</b>	<b>1-2</b>	<b>3</b>
Reduction of greenhouse gases by this source and relative costs.	No indication of understanding or communicating either.	Effectively communicates one of the two, with graphics and numbers, or communicates both without numbers.	Effectively communicates both with graphics and numbers.
Pros and Cons	No indication of understanding of pros and cons of the energy source.	Effectively communicates several pros and cons of the energy source.	Effectively communicates several pros and cons of the energy source AS IT RELATES to New Brunswick.
Persuasion	No attempt to persuade New Brunswickers to “buy in” to the energy source	A fair to good argument to persuade New Brunswickers to “buy in” to the energy source	A convincing argument to persuade New Brunswickers to “buy in” to the energy source
Reference and use of media (graphics, charts, graphs, images)	No references, poor or no use of medium	References included in proper format.  Fair to good use of media in the presentation (most are relevant)	References included in proper format.  Excellent use of media in the presentation (all are relevant and on point)
Total:			<b>/12</b>