Decoding Carbon

#DECODINGCARBON
Challenge: A Climate Policy Quest

Learning Outcomes

- Students will be able to think critically about designing a climate policy solution for Canada
- Students will feel empowered and engaged realizing the impact they can make in shaping Canada's climate future

Curriculum Connections

- Grade 10 Science
- Grade 10 - 12 Environmental Science in British Columbia
- Grade 10 - 11 Social Studies in Alberta
- Grade 12 Canada & World Studies in Ontario

Length of Activity

2 – 2.5 hours

Materials List

- Decoding Carbon: A Climate Policy Quest Backgrounder
- Marking Rubric
- Challenge Submission Form (in development)
- Internet Enabled Device
- Tools for simulating policy scenarios
    - Pembina Institute's Energy Policy Solutions Simulator
    - En-ROADS Simulator

Activity: Step 1

Read out loud the following to your class:

Environment and Climate Change Canada has tasked your class as a mock youth council to propose a policy solution for Canada to meet its GHG emissions reductions goals set out in the Paris Agreement.

Activity: Step 2

Students will read about Canada's commitment to lowering emissions as laid out in the Paris Agreement by clicking the link here. (15 minutes)

Activity: Step 3

Students will read about Canada's performance in addressing climate change by clicking the link here. (15 minutes)

Activity: Step 4

Students will complete the challenge: (1 - 1.5 hours)

Students will propose a new climate policy for Canada that demonstrates the potential to limit Canada's temperature increase to 1.5°C by achieving 80% or higher reduction in greenhouse gas emissions by 2050 compared to 2005 levels.

Parameters for Submitting the Policy Proposal:

1. Students should clearly identify whether the measure applied is a mitigation measure or an adaptation measure.
2. Students should demonstrate all sectors a policy is being applied to (e.g., energy efficiency building codes for a) residential buildings b) commercial buildings)
    a. Students are encouraged to use the simulators linked below for designing their policy proposal
    b. Sample demonstration on next page.

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1. Mitigation Measures Sample Demonstration

Sector	Policy Tool Employed	Potential Outcome Type	Potential Outcome Amount
Residential Buildings	Energy Efficiency Building Codes	Energy Savings CO_2 emissions reductions	X GJ X tonnes of CO_2
Commercial Buildings	Energy Efficiency Building Codes	Energy Savings CO_2 emissions reductions	X GJ X tonnes of CO_2
Transportation	Carpooling lanes	CO_2 emissions reductions	X tonnes of CO_2

2. Adaptation Measures Sample Demonstration

Sector	Policy Tool Employed	Potential Outcome Type	Potential Outcome Amount
Residential	Climate Change Awareness Education Grants	Behaviour Change	Encourages to research potential CO_2 emissions reductions or energy savings through behaviour change

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- Students should clearly demonstrate the potential outcome achieved by the policy applied (e.g., energy efficiency building codes will result in *x* amount of GJ of energy savings and *y* amount of tonnes of CO_2 emissions reduction);
- Students should clearly demonstrate the overall impact of all the individual policy tools proposed in terms of limiting the temperature increase. Students are encouraged to use the simulators suggested below to show this.

Criteria for Judging Submissions

- Students are encouraged to translate the outcomes in a meaningful metric (e.g., number of cars removed from the roads, number of cities powered for a year)
- The policy should be innovative, impactful, feasible and scalable
- Students should clearly demonstrate how the policy proposed utilizes elements of the infographic "Elements of a Good Climate Policy" (e.g., propose solutions that are proven to result in emissions abatement)