

# 5

The top economic priority of BC's provincial government is to launch a new liquefied natural gas (LNG) industry. This would require doubling to tripling natural gas production in BC's Northeast, building pipelines to the coast, and building new terminals to super-cool gas to liquid form before shipping to Asia. Sourcing natural gas through hydraulic fracturing (or "fracking") as an extraction method has become controversial around the world. Concerns include small earthquakes, water contamination, air pollution and the contribution of emissions to climate change. Some jurisdictions have banned the practice; others are seeking to realize economic benefits in the form of jobs and government revenues.

This module draws on Climate Justice Project research including:

*Fracking Up Our Water, Hydro Power and Climate: BC's reckless pursuit of shale gas*, [www.policyalternatives.ca/fracking](http://www.policyalternatives.ca/fracking)

*LNG's threat to water sustainability*

[www.policynote.ca/lngs-threat-to-water-sustainability](http://www.policynote.ca/lngs-threat-to-water-sustainability)

*BC's Legislated Greenhouse Gas Targets vs. Natural Gas Development: The good, the bad and the ugly*

[www.policyalternatives.ca/natural-gas-ghgs](http://www.policyalternatives.ca/natural-gas-ghgs)

## OBJECTIVES

- Students will understand the basic processes and issues associated with fracking.
- Students will understand the connections between fracking and proposed LNG development.
- Students will identify and reflect on the various stakeholders involved in fracking operations in BC and their respective viewpoints.
- Students will consider whether or not they would vote to approve a fracking operation in their community.

## COMPONENTS

1. Fracking and the BC context
2. Introduction to the Town Hall meeting simulation
3. Research and preparation for the Town Hall meeting simulation
4. Town Hall meeting simulation
5. Town Hall debrief and discussion

## CURRICULUM CONNECTIONS

Science 8, 9, 10  
 Science and Technology 11  
 Social Studies 8, 9, 10, 11  
 Civic Studies 11  
 Comparative Civilizations 12  
 BC First Nations Studies 12  
 Geography 12; Social Justice 12  
 Sustainable Resources 11, 12  
 English Language Arts 8, 9, 10  
 Communications 11, 12  
 Applied Skills 11  
 Business Education 8, 9, 10  
 Economics 12  
 Home Economics:  
 Family Studies 10, 11, 12

Visit <http://teachclimatejustice.ca/the-lessons/PLOs> to download a comprehensive list of BC Ministry of Education prescribed learning outcomes (PLOs) that may be addressed with this resource package.

## TOTAL SUGGESTED TIME

3 – 3.5 hours

## RESOURCES REQUIRED

- Digital projector and computer with internet access
- Student access to computers with internet access
- Whiteboard/chalkboard and markers/chalk
- Paper and pens/pencils
- PowerPoint: *Fracking: The BC context* [Download at [www.teachclimatejustice.ca](http://www.teachclimatejustice.ca)]
- Copies of character profiles and Town Hall meeting questions



## Part 1 – Fracking and the BC context



**Read aloud:** Over the next few classes, we will explore the issues and debates around hydraulic fracturing (or “fracking”). In BC, most of the natural gas we produce involves fracking, and there are proposals to double or triple natural gas production for export to Asia as liquefied natural gas (LNG). The government and related industries see this as a huge economic opportunity; others are concerned that lofty economic promises may not materialize, and that key environmental issues are being ignored.



### Question:

What do you know, or what have you heard, about fracking?

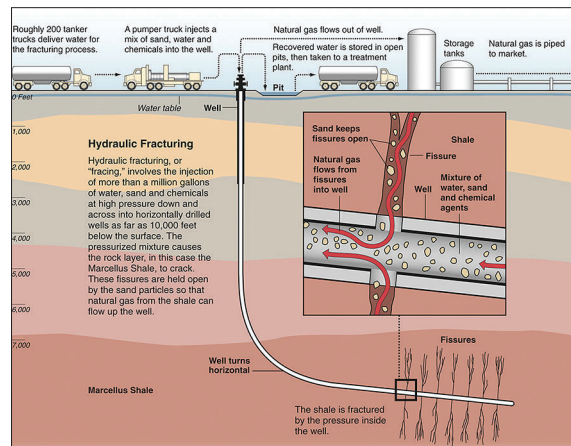


### Show video: *Fracking Explained: Opportunity or Danger?*

<http://youtu.be/Uti2niW2BRA?t=1m23s>



### Show PowerPoint slide: “Fracking process”



Credit: Al Granberg/ProPublica



**Brainstorm as a class:** Knowing that natural gas production in BC involves fracking, why might increasing production be contentious?

Ensure the following points are addressed:

- Fracking produces greenhouse gases, including methane, which contribute to global climate change.
- Fracking requires huge amounts of water resources.
- First Nations treaties in BC are unresolved, and they have claims and rights to much of the land where fracking operations occur.
- Some argue that natural gas production is a route towards more jobs and economic development, while others argue that the money spent on a green economy could create more long-term jobs. Natural gas production employs about 4,000 British Columbians.
- British Columbians subsidize fracking through tax dollars: public roads, corporate tax breaks, and cheap water and electricity all underwrite resource extraction.
- Only about 15% of the gas produced in BC is consumed here. The rest is transported to the United States and Alberta (to help power tar sands extraction).



## Part 2 – Introduction to the Town Hall meeting simulation



### Read aloud:

#### Scenario

Surveyors have discovered shale rock deposits and natural gas near the fictional town of Mountainhead, a small community in northern BC. The natural gas company FrackCo has put in an application to the BC government to begin fracking in the area. FrackCo is also seeking additional assistance and resources for the project, such as electricity, access to local water sources and new roads. The company is promising local jobs, payment of local taxes, and funding for various local amenities, such as a new community centre. The project has met with resistance from some groups and support from others. Some people are undecided as to whether they support the project. The town has hired a moderator to run a Town Hall meeting and encourage dialogue with all of the different groups.

#### Context

Fracking in BC is a multifaceted issue with many different perspectives. Over the next few days, we will take on the roles of different groups with different perspectives, and reflect on how we feel about the issues. After all is said and done, we will hopefully be able to answer the question: would we support a natural gas fracking project in our community?

As we take on different personas for the sake of the simulation, it is important to ask ourselves:

- How does this role or perspective resonate or not resonate with my own values?
- Do the goals of this group fit with the kind of world I want to live in?

While local benefits and costs are central to the discussion of fracking and fossil fuel development in BC, we also need to consider this topic within the context of human-made climate change, something that affects the lives and livelihoods of people both locally and around the world.

Also, the issue of fracking is closely intertwined with the issue of liquefied natural gas (LNG). The provincial government wants to build new LNG plants on the coast, which will turn natural gas into liquid form to ship to Asia. But the gas to be liquefied comes mostly from northeastern BC, and almost all of that gas is now extracted using the fracking process.



### Instructions for groups

There are various stakeholders or people with different interests or perspectives on this issue.

They might include:

- Oil and gas company representatives
- The provincial government
- Resource workers (both local and within the province) hoping to gain employment on these projects
- Members of First Nations communities in and around Mountainhead
- Other community members who live in Mountainhead (this could include farmers whose land and access to clean water may be threatened by the project, and local businesses who rely on expenditures made by local gas industry workers and families)
- Environmental advocates from across the province

In groups of four, students will take on one of these stakeholder personas. All members of the group will be responsible for answering a series of questions and doing research together for the Town Hall simulation. Two students from each group will represent their group in the Town Hall simulation. Other group members will act as observers, taking notes on how they personally respond to the issues that arise, and giving feedback after the activity.

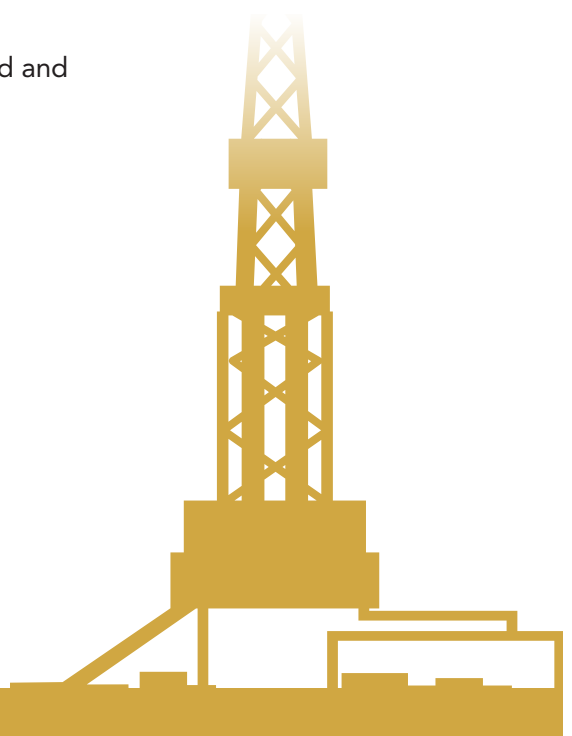
The student handout lists suggestions for what each stakeholder group might focus on. This is by no means meant to be an answer key to the questions above, as how a person might respond is far more complicated and nuanced than what is suggested, but it can be used as a resource. It is highly recommended that students use the internet to seek out information and to guide group discussions to determine what they think their characters might say.



The following two pages should be photocopied and distributed to each student.

### NOTE TO TEACHERS:

Please ensure that students understand the sensitivity and respect required when representing a cultural identity that is not their own. While the dramatic potential of this activity is part of its appeal, care should be taken to ensure students focus on respectful sharing of researched opinions, and do not “perform” their personas (e.g. by using accents, wearing costumes, acting out stereotypes).



# Fracking Town Hall – student handout



## Questions for each group to consider:

- Who are you? Do you support a fracking project in Mountainhead? (Yes/No/Undecided)
- Tell us briefly why you do or do not support this project.
- What is your perspective on the environmental risks and concerns that come with the project? Be sure to consider both local and global environmental issues.
- What are your thoughts on the best way to ensure the economic health and viability of BC and/or your community? How can local jobs be supported and encouraged?
- What is your response to the concerns about the impact of fracking on the health of people in the surrounding community?

## Gas company representatives

Gas company representatives have a vested interest (making a profitable investment) in having the project go forward. They are ultimately accountable to their shareholders, not people in local communities. Although they acknowledge that there are some environmental and health risks associated with fracking, they want to minimize any additional costs and taxes that might be imposed on them. But they must address local concerns if the project is to proceed.

## BC government

The BC government supports the fracking project in Mountainhead. Their main focus is on economic growth for the province and they feel that fracking and LNG have the potential to bring a massive amount of money to the BC economy. They are somewhat concerned with the environmental and health issues raised, but feel that the established procedures and regulations are enough to ensure safety. However, they do care about public opinion on the matter and won't move ahead without popular public support.

## Resource workers seeking employment on the project

Resource workers (both local and within the province) hoping to gain employment on the project acknowledge that there are concerns about fracking, but generally support the project because they believe it will bring jobs to the community and will boost the local economy. They are concerned about the environmental and health risks, as well as safety issues at fracking worksites, and want all of these issues addressed if the project is going to move forward. At the end of the day, they would support any initiative that brings the most jobs and long-term economic security to themselves and their families.

**Members of local First Nations communities**

Members of the First Nations communities in the area are open-minded about new economic development possibilities, but generally do not support the fracking project. They are very concerned about the health and environmental impacts, particularly with regard to water contamination. They are also concerned that their way of life (which includes hunting and fishing) and the potential for economic development in local eco-tourism could be compromised. They want to ensure that any profits or opportunities for local development are shared with local First Nations communities. Legally, they must be consulted and give consent before any fracking operations take place on their land because of unresolved land treaties.

**Other community members who live in Mountainhead**

Other community members who live in Mountainhead are undecided about whether they support the project or not. They are concerned about risks to their water supplies, health impacts for their families, and impacts on local industries, like farming and eco-tourism. But they are attracted to the idea of new economic development and high-paying jobs. Some are worried that the jobs brought to town might only be for the short term. They are also concerned about the effect a fracking worksite might have on their community.

**Environmental advocates from across the province**

Environmental advocates from across the province are opposed to the project. They are very concerned about the health and environmental risks, specifically how fracking contributes to climate change, contaminates water supplies and causes other pollution. They argue that BC can create more well-paying, long-term jobs by investing in a green economy instead of fossil fuels.



## Part 3 – Research and preparation for the Town Hall meeting simulation



Be sure to give groups enough time to answer the questions on the previous pages, and to develop their understanding of their personas and the issues, in preparation for the Town Hall meeting simulation.



## Part 4 – Fracking and the BC context



### Instructions for the moderator:

- Two representatives from each group sit together in the middle of the room, preferably in a circle.
- Observers (those not actively speaking for the group) sit surrounding the stakeholders. They are responsible for taking rough notes of their observations during the simulation.
- Read aloud the Scenario and Context sections from Part 2.
- At your discretion, choose questions to ask the stakeholders, allowing two minutes for each group to respond.



### Moderator's questions:

- Who are you? Do you support a fracking project in Mountainhead? (Yes/No/Undecided)
- Tell us briefly why you do or do not support this project.
- What is your perspective on the environmental risks and concerns that come with the project? Be sure to consider both local and global environmental issues.
- What are your thoughts on the best way to ensure the economic health and viability of BC and/or your community? How can local jobs be supported and encouraged?
- What is your response to the concerns about the impact of fracking on the health of people in the surrounding community?



## Part 5 – Town Hall debrief and discussion



### Reflection and debrief questions:

- How was this Town Hall like real life? How was it not?
- For the two active speakers from each group (non-observers), how did you feel acting in your role?
- For observers, which group(s) did you most strongly resonate with? Why? Did your opinions change over the course of the Town Hall? Why or why not?
- Who stands to benefit if the fracking proposal is accepted? Who is unlikely to benefit, and what are some of the potential losses they may face?
- Does the fracking proposal promote fairness and justice in BC? Why or why not?
- What effects could a fracking project have on global climate change and local climate justice?
- Would you support a fracking project in your community?

### Possible follow-up questions:

- How does your group's role or perspective resonate with your own values?
- How does what your character was advocating for fit in with the kind of world you personally want to live in?
- How does climate justice fit into the discussion about fracking and LNG in BC?

### ADDITIONAL RESOURCES

- **Path to Prosperity? A Closer Look at British Columbia's Natural Gas Royalties and Proposed LNG Income Tax**  
[www.policyalternatives.ca/publications/reports/path-prosperity](http://www.policyalternatives.ca/publications/reports/path-prosperity)
- **From Stream to Steam: Emerging Challenges for BC's Interlinked Water and Energy Resources**  
[www.policyalternatives.ca/water-energy](http://www.policyalternatives.ca/water-energy)
- **Will LNG development blow BC's carbon budget?**  
[www.policyalternatives.ca/publications/commentary/will-lng-development-blow-bcs-carbon-budget](http://www.policyalternatives.ca/publications/commentary/will-lng-development-blow-bcs-carbon-budget)
- **Don't Frack the Law! Why BC's natural gas plans will kill our climate action targets**  
[www.policyalternatives.ca/node/11497](http://www.policyalternatives.ca/node/11497)
- **Troubled Waters: BC's Gas Boom**  
<http://vimeo.com/74859770>
- **Fractured Land**  
[www.fracturedland.com](http://www.fracturedland.com)
- **Gasland**  
[www.gaslandthemovie.com](http://www.gaslandthemovie.com)

The opinions and recommendations made in these lesson plans and the linked reports and resources, and any errors, are those of the authors, and do not necessarily reflect the views of the CCPA, BCTF or funders of the Climate Justice Project.



## ABOUT THE PROJECT

*Climate Justice in BC: Lessons for Transformation* was designed to provide teachers with classroom-ready materials to engage their students with how climate action intersects with social justice ("climate justice"). The curriculum features eight modules designed for grade 8-12 students to explore climate justice within the context of BC's communities, history, economy and ecology. These lessons tie into subject matter and prescribed learning outcomes (PLOs) already in BC's curriculum (complete list at [teachclimatejustice.ca/the-lessons/PLOs](http://teachclimatejustice.ca/the-lessons/PLOs)), while providing a framework to unpack modern social and environmental issues.

The topics are based on reports from the Canadian Centre for Policy Alternatives' Climate Justice Project – a research project that looks at the two great inconvenient truths of our time: climate change and rising inequality. (Climate Justice reports, shorter pieces and videos available at [www.climatejustice.ca](http://www.climatejustice.ca).)

Visit [teachclimatejustice.ca](http://teachclimatejustice.ca) for downloadable and online components of this curriculum, including PowerPoint files, links to videos and resources, and individual lesson PDFs.

Teachers are encouraged to adapt these lessons to their particular classroom needs, or pull out specific activities as appropriate. Times allocated for each module are approximate and will vary greatly depending on the grade and composition of the class. While these lessons were designed for secondary students, most modules and activities are easily adaptable for upper intermediate students. Feedback is welcome and will help us refine these modules for subsequent editions.

## MODULE SUMMARIES

### Module 1: Introduction to Climate Justice

Causes and effects of climate change through a fairness and equity lens.

### Module 2: Reimagining our Food System

Climate change and our food systems, how climate change may affect food production in BC and elsewhere, and social justice issues, such as vulnerability to hunger and migrant farm labour.

### Module 3: Transportation Transformation

How community design encourages or discourages car use, and what we can do to better facilitate walking, biking and public transit options, create more complete communities and improve quality of life.

### Module 4: Rethinking Waste

Moves beyond recycling and composting and looks at our culture of consumption and how it produces waste, both solid waste and airborne emissions like greenhouse gases.

### Module 5: Fracking Town Hall

Uses a town hall simulation to explore the challenges of fossil fuel extraction and the bigger picture context of the push for a BC-based liquefied natural gas (LNG) industry.

### Module 6: Green Industrial Revolution

Uses the mini-documentary *Town At The End of the Road*, to consider how resource sectors can be re-imagined as part of a green economy.

### Module 7: Imagining the Future We Want

Uses a storytelling exercise and themes of intergenerational justice to discuss the challenges we face today and imagine how we can move towards a better future.

### Module 8: Challenges to Change

Explores the essential elements of successful social change movements.

## GLOSSARY

**2°C** – The amount of global warming above pre-industrial levels (200 years ago), which could lead to catastrophic outcomes for human populations (and countless other animal and plant species). The Earth has already warmed by 0.8°C above pre-industrial levels.

**Carbon dioxide (CO<sub>2</sub>)** – A heat-trapping molecule, and the principal greenhouse gas of concern to climate scientists. A growing concentration of CO<sub>2</sub> from burning fossil fuels is warming the Earth.

**Carbon tax** – A tax applied to the combustion of fossil fuels. BC currently has a carbon tax that amounts to about 7 cents per litre at the gas pump.

**Climate change** – The altering of climate patterns (e.g. more precipitation, more intense storms, floods or droughts) on Earth caused by the burning of fossil fuels.

**Climate justice** – A term for viewing climate change as an ethical issue and considering how its causes and effects relate to concepts of justice, particularly social justice and environmental justice. This can mean examining issues such as equality, human rights, collective rights and historical responsibility in relation to climate change.

**Fossil fuels** – Fossil fuels are the underground remains of plants and animals that lived millions of years ago, which can be processed and combusted for energy use. Examples include oil, bitumen, coal and natural gas.

**Global carbon budget** – An estimated maximum amount of carbon dioxide and other greenhouse gases we can emit into the atmosphere before passing the 2°C critical threshold of warming.

**Global warming** – The heating up of the Earth caused primarily by the burning of fossil fuels (oil, coal and natural gas), which releases heat-trapping carbon dioxide into the atmosphere.

**Greenhouse gas (GHG)** – A gas that traps heat and contributes to global climate change.

**Liquefied Natural Gas (LNG)** – Natural gas that has been converted into liquid for ease of storage and transportation.

**Methane (CH<sub>4</sub>)** – A potent greenhouse gas, and the principal ingredient in "natural gas."

**Renewable energy** – Energy that comes from resources that are continually replenished, such as sunlight, wind, rain, tides, waves and geothermal heat.

## PUBLICATION INFORMATION

**Author:** Ryan Cho

**Editor:** Marc Lee

**Climate Justice Education Advisory Committee:** Mélanie Beliveau, Katherine Byers, Vagner Castilho, Kathy Hartman, Marc Lee, Seth Klein, Kevin Millsip and Thi Vu

**Print layout:** Jennifer Sowerby

Complete project credits, biographies and acknowledgements at [teachclimatejustice.ca/about](http://teachclimatejustice.ca/about)



**CCPA**  
CANADIAN CENTRE  
for POLICY ALTERNATIVES  
BC Office

### Canadian Centre for Policy Alternatives – BC Office

The CCPA is an independent, non-partisan research institute concerned with issues of social, economic and environmental justice. [www.policyalternatives.ca](http://www.policyalternatives.ca)



### British Columbia Teachers' Federation

The British Columbia Teachers' Federation (BCTF), established in 1917, is a social justice union of professionals representing public school teachers in BC, Canada. [www.bctf.ca](http://www.bctf.ca)

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## CLIMATE JUSTICE PROJECT

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