



Impacts on Environments

Chapter

13



READING STRATEGY

As you read through this chapter, make a note each time you come across the term “resource development.” Beside the note, summarize the context in which the term is used. Keep the summaries in a point-form list. At the end of the chapter, review the list and use it to reflect on your understanding of some of the issues and perspectives related to resource development.

Chapter Focus

So far in Part 3, you have considered the economic aspects of sustainable prosperity. What about environmental aspects? Can we achieve a healthy economy without a healthy environment, or vice versa? How does the natural environment relate to our Key Issue: *To what extent we should embrace globalization?*

Canada is the second largest country in the world by size, but our population is relatively small. We have plenty of land, water, and natural resources such as minerals, oil, and timber. As economic globalization opens up world markets, these resources are increasingly valuable, especially in places where they are not readily available. Canadians must examine the extent to which we are willing to develop our resources.

Chapter Issue

You have already begun thinking of the Main Issue for Part 3: *To what extent does globalization contribute to sustainable prosperity for all people?* How might sustainable prosperity relate to environmental issues such as land use and resource development? In this chapter, you will have a chance to explore several perspectives on the relationship between globalization and the environment. You will be given opportunities to examine the impacts of globalization on resource development, and to evaluate some of the global actions and policies that affect the world’s natural environment. As you approach these topics, consider the Chapter Issue: *To what extent does globalization affect the environment?*



Figure 13-1 ▲

A few of the natural resources and products you encounter each day. As a young person in Alberta or the Northwest Territories, what is your relationship with natural resources? In this chapter's Skill Path, you will evaluate multiple perspectives on local resource development to practise sharing views respectfully. This process will help you start reflecting on the impact that globalization can have on the environment.

SKILL PATH



Figure 13-2 ▲

A fair discussion forum. What makes a discussion effective? How important is it to give all perspectives equal footing in a situation such as the one presented in this Skill Path?

Ask Good Questions

Ask good questions as you direct your research, conduct interviews, and interact in discussions.

Alternate your use of

- *open-ended questions*, which can be used to expand the discussion
- *direct questions*, which limit answers to brief factual statements
- *probing questions*, which ask for additional information
- *hypothetical questions*, which cause listeners to speculate on a situation and respond creatively.

Share Views Respectfully

Social participation skills help people exchange information and ideas to achieve common goals. Practise the six-step process outlined below to learn how to share views in a respectful and productive atmosphere.

Use research skills from other Skill Paths to learn about a local resource development issue. Then, follow this Skill Path to hold an informed discussion in which you evaluate a local resource development issue from multiple perspectives. By engaging with many perspectives in open, effective communication, you can begin to consider your response to the Chapter Issue: **To what extent does globalization affect the environment?**

Step 1 Build a Foundation

1

When you are confronted with an issue, begin with some basic research. Find out who, what, where, when, and why a situation exists. Based on this information, determine which **stakeholders** (people or groups that are affected by an issue and have something to gain or lose from it) are involved.

Step 2 Plan Your Exploration

2

Form a small team, and have an informal talk about how your group will approach the task. Collaborate to develop a plan for your in-depth research.

Step 3 Focus on Perspectives

3

Think about the perspective you will be investigating. How will you best learn about it? Will you find information in the newspaper or on the Internet? Could you interview members of the stakeholder groups you are examining? Have these stakeholders published any books, pamphlets, or websites that help explain their perspectives on the issue? Remember that an informed position on any issue is easier to explain than an uninformed position.

Step 4 Share Findings

4

In your team, take turns presenting what you have learned. When it is your turn, share the details of your research. During everyone else's presentation, listen attentively without interrupting. If you have any questions, make notes on them and raise them during your discussion in Step 5.

Step**Participate in a Respectful Discussion****5**

A respectful discussion allows people to ask intelligent questions and broaden their understanding. In your discussion, use good communication skills to develop your understanding of the diverse perspectives involved in your chosen situation. Make positive, constructive statements. Describe your understandings and reactions. Clarify any points that confuse or trouble you. Express your support and respect for the thoughts and ideas of others.

Step**Practise Your Skill!****6**

- 1 **Apply It.** As a class and with the help of your teacher, select a local issue or controversy related to resource development or land use.
 - a) Assign each team member a perspective on the issue. You might need representatives for industry, labour, local government, environmental protection, and local residents, both for and against.
 - b) Each team member should learn about the issue based on his or her assigned perspective. Possible resources include municipal government records, local experts, local historians or historical associations, municipal websites, library databases, or individuals' home pages. (Hint: Students who have been assigned the same perspective in different teams may wish to work together to accomplish this research.)
 - c) Regroup so that each member can present one perspective on the issue. Then hold a respectful group discussion to expand your understanding of issues. Keep track of your discussion as though you are drafting a resource development agreement so that you can give a detailed report of your progress to your teacher.
- 2 **Consider It.** Once you have completed your discussion, reflect on your team's work. Decide what worked well and what you would change next time you work in a team. What obstacles did you confront? Acknowledge each team member's contribution.

Ideas and Opinions

“ Nature gave us one tongue and two ears so we could hear twice as much as we speak. ”

—Epictetus (c. 55–135 CE),
Greek philosopher.

In what ways does effective listening affect discussions, arguments, and compromises?

Figure 13-3

In what ways can good communication skills be used outside of school?



Ideas and Opinions

“ A society is defined not only by what it creates, but by what it refuses to destroy. ”

—John Sawhill, former CEO of the Nature Conservancy.

How is the destruction of natural environments for resource development related to the Chapter Issue?

Resource Development and Land Use

Question for Inquiry

- How does globalization affect resource development?

Think of a tree near your home. Does it mean anything to you? You might remember climbing the tree with your brothers and sisters as a kid, or having a picnic under the tree with friends after a morning hike last summer. How might others view the tree?

A person who...

- works in the logging industry
- needs to build a home
- monitors forest health
- studies ecology
- has asthma because of poor air quality
- needs firewood
- feels a spiritual connection to land
- works to protect animal species

might see the tree as...

- an economic opportunity
- a source of timber
- a source of seeds from which new trees will grow
- an integral part of an ecosystem
- a natural air filter
- a source of fuel
- an essential part of the whole environment
- an important habitat

Figure 13-4 ▲

Multiple perspectives on the importance of a tree. Most people probably see one tree as many of these things. Why is it important to consider multiple perspectives on resource development as you look at globalization and its effects on the environment?

In a globalizing world, how can we respect all perspectives as we decide if, when, and how to develop resources? Plans for resource development can involve local individuals, regional businesses, national governments, international markets, and global organizations. The values of small stakeholder groups may conflict with the priorities of larger or more powerful bodies.

For thousands of years, people met their needs by developing and consuming resources found locally. However, today's large populations, new technologies, and rapid transportation often mean that local resources are developed for larger marketplaces. Resource development is now affected by economic pressure to meet the needs of huge global markets. Let's look at a case specific to Alberta—the development of oil resources—to explore the relationship between globalization and resource development.



Figure 13-5

In 2002, near the port of Sete, France, Greenpeace members boarded the *Agia Irene*, a cargo ship carrying timber harvested from ancient forests in Liberia, in an act of non-violent protest. How have global environmental movements affected attitudes toward resources and land?

Ideas and Opinions

“ Civilization is in no immediate danger of running out of energy or even just of oil. But we are running out of environment—that is, out of the capacity of the environment to absorb energy’s impact without risk of intolerable disruption—and our heavy dependence on oil in particular entails not only environmental but also economic and political liabilities. ”

—Vijay V. Vaitheeswaran,
journalist and environment and energy
correspondent for *The Economist*.

How are you dependent on oil? Think about how much oil you consume in your daily routine, from the gasoline used to drive to music lessons or regional hockey games to the plastic containers you use to pack your lunch. (Plastic is made from oil.)

Resource Development and the Oil Industry

Fossil fuels such as oil and gas provide energy. Their energy fuels much of the world’s transportation. Global transportation has increased in recent years because economic globalization has made it easier to trade goods internationally. Think about all the food from around the world you can buy in your local grocery store. Most of these products are transported to the store from around the world by ships, airplanes, trains, and trucks that run on fossil fuels.

As globalization continues to expand trade, the transportation of goods will require more consumption of fossil fuels. In economic terms, this is called “demand.” The demand for fossil fuels is constantly growing. More developed countries use fossil fuels to maintain the status quo for a growing population. Less developed countries increase their use of fossil fuels to become more competitive in global markets.

Fast Facts

Energy-related royalties make up about one-third of the total revenue collected by the province of Alberta.

How important do you think the energy industry is for the people of Alberta? As an Albertan, how important is it to you?

TOTAL OIL RESERVES AND CONSUMPTION FOR NORTH AMERICA, 2003

	Reserves (billions of barrels)	Oil Consumed (million barrels per day)	Population (millions)
Canada	178.68*	2.3	32.2
Mexico	15.67	2.0	103.7
United States	22.68	20.7	290.3
North America	217.03	25.0	436.2

* This number includes reserves in the oil sands.

Source: Data from US Census Bureau International Database, <http://www.census.gov/cgi-bin/ipc/idbrank.pl>.

Figure 13-6

Oil reserves and consumption. Compare the amount of oil consumed by the three countries. Then calculate the per capita (per person) use of oil in each country. Do you think it is reasonable to believe that every person in each of the countries personally uses that much oil per day? What other factors should be considered? Which individuals or groups are most likely to use the most oil per day?

While the demand for oil and gas grows, the supply of these resources is limited. When a barrel of oil is burned, it is gone forever. In time, the supply of fossil fuels will run out. However, the development of reserves such as the oil sands in Alberta and oil in Venezuela could help increase the supply of oil and gas to meet the growing worldwide demand for the near future.

Can these resources be developed without long-term impacts on the environment? Should they be developed? Or should cleaner, safer fuels be developed instead? What role does globalization play in the development of oil resources?

Figure 13-7

These figures come from a publication researched by Pembina Institute, an independent, not-for-profit environmental policy research and educational organization founded in Drayton Valley, Alberta. What do you think is the perspective of the Pembina Institute? What types of facts might an oil company have presented instead?

The Environmental Implications of Canada's Oil Sands Rush

- Each day 600 million cubic feet of clean natural gas is used to produce oil sands—that's enough to heat more than three million Canadian homes
- Producing a barrel of oil from the oil sands produces three times more greenhouse gas emissions than a barrel of conventional oil
- Oil sands mining operations are licensed to divert 349 million m³ of water per year from the Athabaska River—twice the amount of water used by the City of Calgary
- According to Suncor, it has reclaimed 858 hectares of land since it started operations in 1967; this is less than 9 per cent of the land it has mined to date
- Area of boreal forest leased for oil sands mining development: 3,000 km²
- Area of boreal forest leased for deep (in situ) oil sands development: 35 680 km² (an area larger than Vancouver Island)

Source: Pembina Institute, *Oil Fever Fact Sheet*, p. 2, Accessed at http://www.pembina.org/pdf/publications/OSF_fact72.pdf, February 3, 2007.



Alberta's Oil Sands: Perspectives on Environmental Impacts

How do some individuals and groups feel about the development of the oil sands in Alberta?

A lot of our Elders cry when they go out on the land. How did this happen?

—Stuart Janvier, resident of Janvier (near Ft. McMurray, Alberta);
Calgary Herald, October 25, 2005.

I am 43 and I plan on retiring around the oil sands.

—Glen Pembroke, an Ontario labourer working at the oil sands;
Calgary Herald, October 25, 2005.

The proposed tar sands developments will tear a hole in Canada's lungs—our vital boreal forest ecosystem. ... It is essential that an integrated land management plan be in place that recognizes and protects the integrity of this critical ecosystem.

—Lindsay Telfer, Sierra Club of Canada,
<http://www.sierraclub.ca/national/media/item.shtml?x=904>.

So what you see today is a mine. What you'll see 10 years from now is a replanted forest. ... These sites will all be going back. Now we'll be minin' at a different location at that point. ... This will look forested when we get done with it in 20 years' time.

—Rick George, Suncor Energy,
<http://www.cbsnews.com/stories/2006/01/20/60minutes/main1225184.shtml>.

I mean, there's no question that ... they've got a mess up there. But I do think they'll take care of it over time.

—T. Boone Pickens, Texas oil tycoon,
<http://www.cbsnews.com/stories/2006/01/20/60minutes/main1225184.shtml>.

[G]overnments must ensure that the public wealth generated by depleting this non-renewable resource is maximized for current and future generations, and that all environmental liabilities are borne by the oil sands industry.

—Morag Carter, David Suzuki Foundation,
<http://www.sierraclub.ca/national/media/item.shtml?x=904>.

- 1 Examine the sources of these quotations. How many of the speakers are describing their points of view as Albertans? Why do you think that there are so many non-Albertan opinions on the development of a resource in Alberta?
- 2 How should the government address different perspectives? As a class, discuss which perspectives you think need more attention and why.

A Fine Balance

Global initiatives to find alternatives to oil as a major source of energy have met with some success. Palm oil, made from the fruit of palm trees, is currently used in many products, including deep-fried snacks, ice cream, and cosmetics. It may also be valuable as an environmentally friendly bio-fuel.

Many western countries are increasing their consumption of palm oil. In order to produce enough palm oil to meet increasing demand, countries such as Indonesia and Malaysia are developing more plantations on which palms are grown. In 1975, only 642 000 hectares of Malaysian land were used for palm oil plantations. In 2004, there were almost 4 million hectares of plantation. Parts of the rain forest in Borneo are now being cleared in order to make room for palm oil plantations.

There is an economic opportunity here, but individuals and groups, both locally and globally, object. Why? The old-growth rain forest is an essential habitat to millions of species, including the orangutan, which scientists believe is the closest primate relative to humans. The destruction of orangutan habitat could mean the extinction of the species.

Many global environmental groups have become involved in the debate over deforestation, including the clearing of Borneo's rain forest in order to make room for palm oil plantations. The governments and companies involved in creating plantations claim that they are very conscious of the habitat and have no intention of endangering the orangutan. Environmentalists claim that the orangutan cannot survive under the pressure of development in the area.

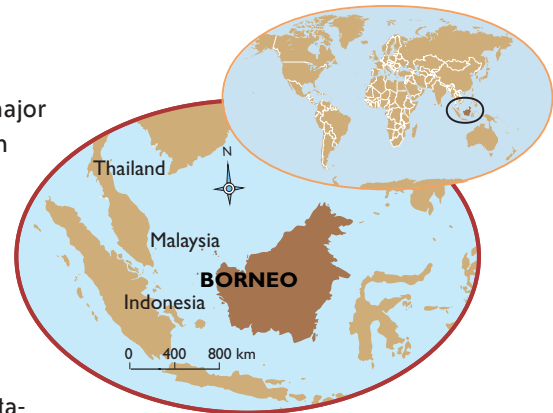


Figure 13-8

The island of Borneo. The territory on the island is divided among Indonesia, Malaysia, and Brunei.

1. In pairs, investigate the dimensions of this conflict. Conduct research to learn about both the benefits and the costs of plantations to the local people, economy, and environment. Present your findings in a one-page report.



The Politics of Resource Development

Should land be left in its natural state, as forests, wetlands, or deserts? Or should it be cleared, drained, or irrigated to make room for roads, homes, and farms? Think back to what you have learned about economic globalization, especially in terms of history and imperialism. What role did natural resources play in colonialism? How might that relationship affect our present understanding of resource development in a globalizing world?

Figure 13-9

Environmental damage due to oil development in Maracaibo Lake, Venezuela. Venezuela is a less developed country that relies on oil exports to maintain its economy. How are globalization and the global demand for oil affecting the environment in Venezuela? To what extent should other countries or international organizations assist Venezuela develop its oil resources in a more sustainable way?

Resource Development in Less Developed Countries

For example, consider the topic of **deforestation** in Borneo or Brazil. Many people worldwide are concerned about the destruction of forests and the effects of deforestation on the biosphere. Trees absorb carbon dioxide and release oxygen. Our emissions of carbon dioxide increase as our consumption of fossil fuels increases. If we continue to increase emissions of carbon dioxide and to decrease the number of trees that absorb carbon dioxide, we could see serious impacts on the atmosphere. This is one aspect of the debate surrounding global warming. Scientists believe that the destruction of forests will cause the planet to heat up.

Is it up to less developed countries to stop harvesting timber in order to combat the effects of global warming? Or is it up to more developed countries to stop increasing carbon dioxide emissions? If the most emissions come from countries that have already destroyed much of their forests, who is responsible for solving the problem?

Most of the forests in Europe were cut down before the 20th century. The timber was used for fuel in homes and factories, paper for books and other educational tools, houses and other structures, and ships for trading and defence. The cleared land was used for farming, pasture, and new villages and towns. All these things helped make European countries wealthy. Many are still leaders in the global economy as a result of the development that occurred by harvesting forests. Should these countries, or any member of the global community, interfere with resource development (such as logging or land clearing) in less developed countries, when the goal of economic globalization is the same one that motivated European governments in the 19th and 20th centuries?



READING STRATEGY

When you encounter new terms, look for root words, prefixes, and suffixes that you already know to help you determine what the term means. For example, **deforestation** = de + forest + ation; **biosphere** = biology + sphere.

◀ **Figure 13-10**

Deforestation in Sarawak State, Borneo. Does this photograph give you all the information you need to draw a conclusion about deforestation? What other images might help you understand the impact of palm oil development in the region?

The Effects of Global Urbanization on the Environment

Consider another aspect of globalization: **urbanization**, or the conversion of rural land to city or urban space. You learned in Part 1 that one of the major trends over the last 100 years has been the movement of people from rural to urban areas.

Figure 13-11 ▶

Population living in urban areas as a percentage of total population, in more developed regions and less developed regions over 30 years. Compare the increase in percentages of the two regions. In more developed regions, urbanization is projected to increase by 8 per cent by 2015. In less developed regions, the increase could be 17 per cent. What does that suggest about the rate of urbanization in less developed regions?

	Urbanization in 1985	Urbanization in 2015
More developed regions	73%	80%
Less developed regions	32%	49%

Source: United Nations Human Settlements Programme, <http://hq.unhabitat.org/habrdd/conditions/world.htm>.

Examine Figure 13-10. These figures suggest that only 20 per cent of the population in the world's more developed regions will not be urbanized by 2015. Few natural resources are available in cities. Where do food, paper, oil, and fresh water for urban dwellers come from? Most of the natural resources consumed in more developed regions are imported from the rural areas of less developed regions. How much of the population in less developed regions is expected to be rural in 2015? As people move to the city, urban areas grow and urban sprawl results. What does that suggest about the availability of rural land on which to grow food, for example? Some theorists argue that more developed regions have much to gain by keeping less developed regions as rural as possible. The trend toward urbanization raises some important questions related to globalization and the environment. What are the economic opportunities of urbanization? What are the drawbacks? What are the effects on the land and the environment? Suppose that the trends continue. In what ways would a totally urbanized world have to change its consumption of resources?

Figure 13-12

The urban and rural populations of Canada and Alberta. According to the 2001 census, the level of urbanization in Canada and Alberta was almost the same, at about 80 per cent urban and 20 per cent rural. How does urbanization affect land use in Alberta? How does land use affect the environment? ▼

	Total Population (2001)	Urban Population	Rural Population
Canada	30 007 094	23 908 211 (79.7%)	6 098 883 (20.3%)
Alberta	2 974 807	2 405 160 (80.9%)	569 647 (19.1%)

Source: Statistics Canada, <http://www40.statcan.ca/101/cst01/demo62j.htm>;
<http://www40.statcan.ca/101/cst01/demo62a.htm>.

Explore the Issues

- 1 Research It.** Using the library and Internet sources, select and research one example of the environmental impact of oil development in Alberta. Determine the date, location, and nature of the event, the cause, the resolution (or proposed resolutions), and lessons learned.
- 2 Discuss It.** Some people believe that humans should consume sparingly and keep the natural environment intact. Others argue that countries must use the land and exploit their resources in order to be economically competitive in a global market. Prepare to participate in a respectful discussion on the following question: *In our globalizing world, should resource and land development for global markets take precedence over environmental concerns, local plans, traditional values, or cultural beliefs?* Make a list of related questions that you might want to raise during the discussion. Base your list on the

Chapter Issue: **To what extent does globalization affect the environment?** **SKILLS**

- 3 Critical Thinking.** Suppose that your baseball team has a lucky diamond. It is close to where your fans live, so you always get a good crowd when you play there, and you have not lost a game on the field in three consecutive seasons. One day, a research scientist from a big multinational corporation makes an announcement in the local newspaper: oil has been discovered underneath your lucky diamond! Now it is going to be bought by a global oil company that may or may not choose to develop it. The company offers to build a new diamond as a gesture of good will to the town, and to sponsor the league using profits from its oil development here and around the world. Are you satisfied? Write a journal entry on how such a scenario would affect you.

Resource Development Agreements and Environmental Legislation

Question for Inquiry

- How does the global community attempt to resolve resource development and environmental issues?

One of the activities in the Skill Path for this chapter asked you to examine a local resource development controversy by looking at multiple perspectives on the issue and trying to reach a compromise. Now, let's say there are 30 resource development controversies in Alberta at this moment. Each one has the same number of stakeholders and perspectives as the one you looked at. If each province and territory has a similar number of resource controversies, then Canada could be dealing with 390 complex resource controversies right now! Keep in mind that each of these controversies can be viewed from multiple perspectives. Now imagine that the United Nations is trying to broker a global agreement to help governments manage resource development. Representatives from Canada must negotiate for all



Figure 13-13

Pierre Pettigrew, Canada's former Minister of Industry, addresses the UN's Climate Change Conference in Montréal in 2005. Who should be involved in creating environmental agreements? What might some of the challenges be?

Canadian interests. Furthermore, Canada is only one of the countries signing the agreement. Yet, all perspectives from all countries must be considered.

In this section, you will have a chance to look at a few different examples of agreements and legislation created to manage resource development and environmental protection. As a global community, we have begun to recognize that all our actions have an impact on the environment, not just locally, but worldwide. Organizations and legislation now approach resources and the natural environment as a whole, rather than as separate parts divided by national boundaries. Your reflections on the Chapter Issue—*to what extent does globalization affect the environment?*—have probably started you thinking critically about this interdependence.

Resource Development Agreements

Many resource development agreements begin as negotiations between a corporation that wants to develop a resource and a government that controls the land where the resource is found. However, there are rarely only two stakeholders involved in a resource development agreement. One or more groups may object to the development of a resource for economic, environmental, social, political, or cultural reasons. Two or more competing corporations might lobby the government for the exclusive rights to develop the resource. International organizations or other countries might try to stake a claim in a resource development negotiation. With input from so many potential perspectives and interests, how are resource development agreements created?

The Mackenzie River Pipeline

In the late 1970s, the discovery of huge reserves of oil and gas in the Far North led to the proposal to build an oil pipeline along the Mackenzie River. Before the pipeline could be built, Chief Justice Thomas Berger was commissioned to investigate the impact of the development on the local people. In May 1977, he recommended a 10-year freeze on the project in order to settle Aboriginal land claims before construction began. Berger recognized that the Mackenzie Valley was not only a construction site, but also home to many people who cared deeply about the land. Multiple perspectives on the issues needed to be addressed before a fair agreement could be reached.

Construction on the pipeline was postponed indefinitely as a result of Berger's report. Then, in 2002, another proposal for a pipeline down the Mackenzie River was introduced. In the time that had passed, many land claims had been settled. Gas companies



The Berger Report

The culture, values, and traditions of Native people amount to more than crafts and carvings. Their respect for the wisdom of their Elders, their concept of family responsibilities extending beyond the nuclear family to embrace a whole village, their respect for the environment, their willingness to share—all of these values persist within their own culture even though they have been under unremitting pressure to abandon them.

—Mr. Justice Thomas Berger,
Mackenzie Valley Pipeline Inquiry, 1977.

- 1 How did these observations relate to Berger's report on the impact of resource development in the Mackenzie Valley?
- 2 Why were they important to the decisions being made about the construction of the pipeline?

negotiated a resource development agreement with Aboriginal groups to give local Aboriginal people up to one-third ownership of the pipeline. Other resource development agreements committed to job creation for local people. The government also promised to direct \$425 million of the money that will be generated in revenue from the development project toward funding of Aboriginal social programs. How have the passage of time and changes in attitudes affected agreements on this resource development project?

Ideas and Opinions

“Let us be clear that, although the people of the Northwest Territories welcome economic development, they are aware of the adverse social and environmental impacts that can result from resource development. Twenty-five years ago, the Aboriginal people of the Northwest Territories stopped the development of a gas pipeline because they recognized that development of their resources would leave nothing of lasting benefit for the people who live here. Today, development must be done in a way that respects the environment and brings benefits to Northwest Territories' residents.”

—NWT Premier Stephen Kakfwi, to the National Roundtable on the Environment and the Economy, at the launch of the State of Debate Report of the Task Force on Aboriginal Communities and Non-Renewable Resource Development, June 4, 2001

Premier Stephen Kakfwi actively opposed the plans for a pipeline as a young Aboriginal leader in the 1970s. How are perspectives and attitudes shaped over time? Has your perspective on the Chapter Issue been shaped by what you have read in this chapter so far? Explain.



Source: Mackenzie Gas Project,
<http://www.mackenziegasproject.com/theProject>.

Figure 13-14

Map of the proposed pipeline. The Mackenzie Valley Pipeline will run 1300 km south from the Beaufort Sea, through forests of the Northwest Territories, along the Mackenzie River toward Alberta. The project will cost \$7 billion and take three years to complete. Do you think the Mackenzie Valley Pipeline will contribute to sustainable prosperity for all the stakeholders involved? Why or why not?

Fast Facts

In 2004, oil-producing countries that do not belong to OPEC produced about 60 per cent of the world's oil. Most of these countries also imported oil in addition to producing it domestically.

What economic and environmental reasons might an oil-producing country have for importing oil?

Resource Development Organizations

Some resource development agreements are negotiated not between corporations and governments, but by the governments of many countries with common interests. For example, the Organization of Petroleum Exporting Countries, or OPEC, was formed in 1960 to regulate oil production and markets. Today, the 11 member countries control much of the world's oil. By agreeing about levels of oil production, OPEC countries control the supply for the worldwide demand of oil. This often causes prices to increase.

OPEC Share of World Crude Oil Reserves (2004)

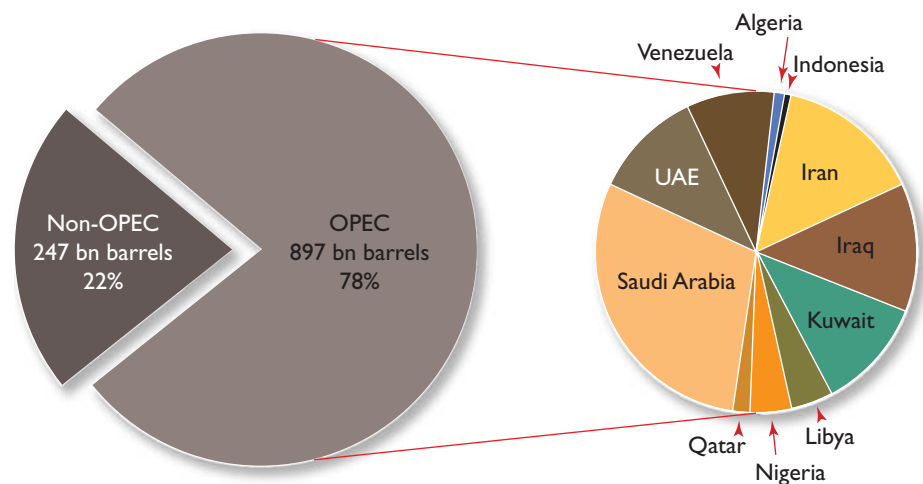


Figure 13-15

Oil reserves in OPEC countries. Not all petroleum-exporting countries are members of OPEC. What might be the economic, political, and environmental effects on the oil industry if all oil-producing countries belonged to the organization?

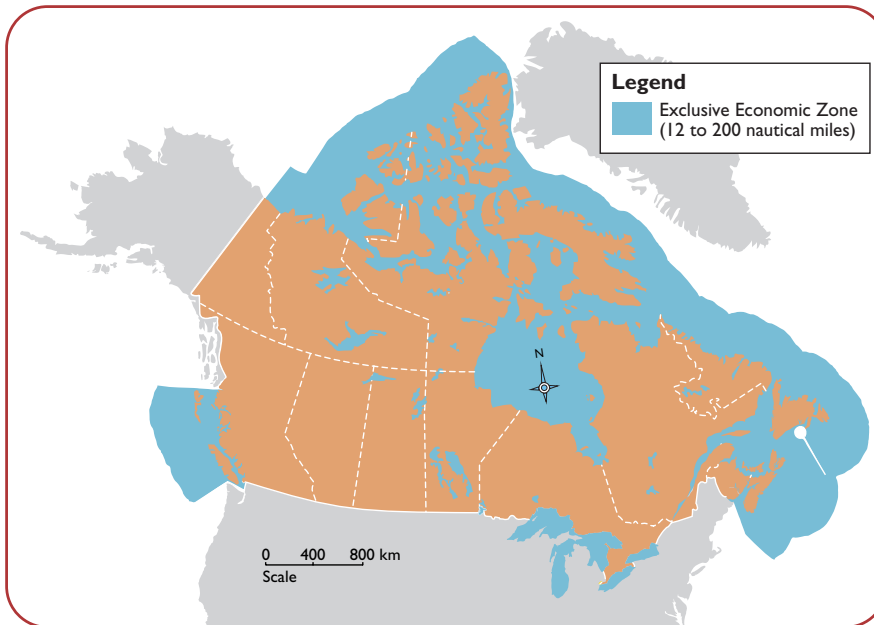
Source: Organization of the Petroleum Exporting Countries, <http://www.opec.org/home/PowerPoint/Reserves/OPEC%20share.htm>.

Environmental Legislation

As you have seen, global demand for resources is increasing, and many less developed countries are trying to become more competitive in global markets. As a result, resource development may be rushed or unsafe. Local, national, and global environmental legislation can help keep countries focused on sustainable development. As with all types of legislation, however, environmental laws can be highly controversial. Environmental agreements and legislation must be created to reflect a variety of perspectives, and the challenge of addressing all of them can create lengthy processes, tension among stakeholders, and even increased illegal activities.

Stakeholders may object to environmental legislation for many reasons. Consider this example: environmental laws in Canada could

prevent a company from dumping waste into a freshwater lake. The company will then have to pay to dispose of the waste in a more environmentally sound way. A competing company in a country where environmental standards do not prevent dumping of waste into freshwater lakes does not have to pay the extra cost of disposing of its waste, and so it may have an economic advantage. Should all countries be required to uphold the same environmental standards? How would that affect the environment? How would that affect the economy?



◀ **Figure 13-16**

The exclusive economic zone (EEZ) off Canada's East Coast. Canadian officials have no authority to regulate the harvesting of fish stocks beyond the boundary of the EEZ. Why is it important to establish conservation agreements in a globalizing world?

Source: Wildlife Habitat Canada,
<http://www.whc.org/images/MarineAreasColourFinal.jpg>.

Resource Development and International Agreements

Consider the example of Canadian fisheries. Restaurants in Canada can import fish from all over the world, but fish harvesters in Canada have to adhere to strict conservation laws. How does that requirement affect resource development in Canada?

In 1982, the United Nations Convention on the Law of the Sea gave all countries the right to fish on the high seas, but coastal countries, such as Canada, were given an exclusive economic zone (EEZ) of 200 miles (320 km) from their shores in which they alone could fish. National conservation laws applied in the EEZs, but fish swim freely throughout the oceans, moving in and out of the protected areas. By the early 1990s, many fish populations in the Atlantic Ocean were low. Canada and other coastal countries set fishing quotas to conserve



▲
Figure 13-17

A Spanish trawler, part of the commercial development of fish resources. Consider the social, economic, and environmental perspectives of Canadian fishers, international fishers, and scientists from around the world on this issue. Environmental legislation to control overfishing in the ocean could prevent the extinction of many species of fish, but fishing is a livelihood for millions of families globally. Who should control resource development in the oceans?

fish stocks, but huge international fishing trawlers operated just beyond the 320 km line with no restrictions on their catches.

Tensions escalated, with fishing boats becoming involved in violent clashes. With the situation worsening and enforcement becoming dangerous, the UN decided to address the problem. In 1995, the UN Agreement on Straddling and Highly Migratory Fish Stocks was created in an effort to manage fish stocks worldwide.

The agreement addresses

- sustainability and conservation
- fishing quotas in international waters
- each country's right to protect its EEZs and legal means of enforcing the agreement
- processes for settling disputes.

Canada has been a party to this agreement since 1999.

International Agreements

Legislation and agreements on a global scale are challenging because of the multiple perspectives, positions, and politics of the global community. Some agreements, such as the Convention on the International Trade in Endangered Species of Wild Flora and Fauna (CITES), have helped draw attention to and discourage people from capturing endangered animals and plants for trading. Some would argue, though, that the agreement has increased illegal poaching and trading because local governments can no longer regulate the ways in which endangered wildlife is harvested.

The Kyoto Protocol is an international agreement that aims to reduce emissions of greenhouse gases in order to curb the effects of climate change. More than 150 countries have signed the Kyoto Protocol, but opposition remains. Some governments and scientists argue that reduction of emissions will not have a large impact upon climate change, since much of the damage is already done. Others object to the principle of “common but differentiated responsibility,” which allows less developed countries to sign the treaty but does not require emissions reductions from them. Instead, the Protocol requires more developed countries to achieve the bulk of the reductions.

The Kyoto Protocol is a treaty—a binding agreement—but not a law. Like many environmental conventions and treaties, it is voluntary, and difficult to enforce. Are these declarations still important? Why or why not? Many local governments take it upon themselves to uphold the principles of environmental agreements even if their countries did not officially sign them. In what ways do agreements promote sustainable prosperity for all? In what ways does environmental legislation affect sustainable prosperity?

The Arctic National Wildlife Refuge

INVESTIGATION

Something to Think About: In a globalizing world, shared borders can figure very prominently in environmental legislation disputes. To what extent should neighbouring countries be involved in one another's resource and environmental issues?

An Example: The Arctic National Wildlife Refuge is located in Alaska, USA, bordering on Canada's Yukon Territory. It is home to Inupiat [i-NOO-pee-at] and Gwich'in [GWI-chin] peoples and to a vast array of Arctic plants and animals. In 2005, the US government voted on an oil-drilling project to take place in the refuge. It was not the first time the issue of drilling in the refuge had been raised in American government. The US Congress passed a bill that authorized drilling in 1995, but it was vetoed by then-President Bill Clinton. President George W. Bush reintroduced the proposal in 2005, claiming that the United States needed to increase its domestic oil supply. Imported oil supplies from other regions of the world were being jeopardized by political and military tensions.

The Canadian government strongly objected to the renewed debate on oil drilling in the refuge. According to a 1987 agreement, the land in the refuge and in two Canadian national parks, Ivvavik and Vuntut, was to be protected in order to preserve the natural habitats of a migrating herd of caribou. The Canadian government's position held that drilling in the refuge would endanger the herd because it would disrupt the protected habitat. This would be a violation of the 1987 agreement.

The proposal was passed in the US House of Representatives but was blocked by the Senate. The issue remains a topic of debate, however. In what ways might drilling in Alaska affect Canada? In a globalizing world, do bordering countries have a right to be involved in the politics of neighbouring countries?

Figure 13-19

A caribou herd travels across the Arctic National Wildlife Refuge. In what ways could a photograph like this one be used to influence people's opinions on the debate? How can images be used to reflect issues that are being debated publicly?



Sources: Parks Canada Warden Service; The Embassy of the United States of America, Ottawa, Canada, <http://canada.usembassy.gov>.

Figure 13-18

The region of the Arctic National Wildlife Refuge. Think critically about the importance of geography in this Investigation. What perspectives must be considered in the development of environmental legislation among countries with shared borders?



Explore the Issues

1 Explore It. The government of Alberta uses resource development agreements, called Forest Management Agreements (FMAs), to regulate the logging industry and its development of timber resources. Visit the *Perspectives on Globalization* website for a link to the government of Alberta's Sustainable Resource Development site. Learn about FMAs and the government's position on their value. Then do some further Internet research on forestry in Alberta, looking for multiple perspectives on the issue. As you research, sketch a few "talking heads"—one to represent each perspective. Give each stakeholder a speech bubble that explains his or her position in a brief statement.



2 Research and Assess It. Work on developing an informed opinion about an environmental agreement. Build a foundation by conducting some basic research. For example, you might want to investigate how the Kyoto Protocol aims

to reduce greenhouse gases, or what the current Canadian government's position on Kyoto is. Then write an editorial that explains your views on the Kyoto Protocol based on your understanding of how it works and Canada's position. Your editorial should focus on the Chapter Issue: **To what extent does globalization affect the environment?** To what extent does globalization affect the development of the Kyoto Protocol? To what extent might the Kyoto Protocol affect the environment? **SKILLS**

3 Reflect and Analyze. Richard Feynman, an American physicist, once said, "For a successful technology, reality must take precedence over public relations, for Nature cannot be fooled." In what ways can you, as an active citizen, ensure that reality takes precedence over public relations in connection with resource development? What skills can you use?

Reflect and Analyze

In this chapter, you have examined the Chapter Issue: **To what extent does globalization affect the environment?** To explore this issue, you looked at some perspectives on the impact of globalization on the environment. You also investigated the significance of agreements and legislation on resource development and environmental protection. Based on your understanding of this chapter, reflect upon the Main Issue for Part 3—**To what extent does globalization contribute to sustainable prosperity for all people?**—and your position on the Key Issue for this course of study: **To what extent should we embrace globalization?**

Respond to Ideas

- 1 Select one OPEC country. Prepare a report on the country by developing a "country profile" using the following questions:
 - How much income is generated from oil revenues?
 - What are the environmental impacts of oil resource development?
 - Does the country use oil revenues to support social programs for its citizens?
 - Does the country provide aid to help support other less developed countries?

Start your research by looking at the most recent version of an encyclopedia in your school's library or online. Share findings by presenting your report to a partner. Then listen as your partner presents to you. By sharing views respectfully, can you improve each other's understanding of the effects of oil development in different places? **SKILLS**

- 2 Many scientists argue that clean, fresh water is the earth's most essential resource. The World Water Forum meets every second year to discuss global issues surrounding water. The theme of the Fourth World Water Forum in Mexico City in 2006 was "Local Actions for Global Challenges." Explore perspectives on the importance of fresh water to humans over the next 50 years by conducting independent Web research on each of the following bulleted points. Then take this list of priorities and reorder it to reflect your opinion.
- Clean drinking water for all humans
 - Waste of water and efficient water use
 - Water pollution from industry
 - Water pollution from medicines
 - Water rights
 - Water technology, such as the **desalination** of salt water

Recognize Relationships between Content and Issues

- 3 Are there alternative fuels for automobiles? Oil and gas reserves are limited and non-renewable. How will transportation change as oil reserves dwindle? Using the library or Internet sources, find out about alternative energy sources for the future, such as bio-fuel. What are the most realistic sources for replacing the use of gasoline for automobiles? Are there examples of government legislation to promote alternative energy sources? Prepare an audio-visual presentation for the class.

- 4 Charles L. Missi, a Torres Strait Islander, made this observation about non-Aboriginal approaches to Aboriginal resource development:

"Over the past 60 000 years we have successfully managed our natural environment to provide for our cultural and physical needs. ... We have a holistic approach to life—the environment and our culture are one in the same. We have a lifetime commitment to protect and sustainably use our natural resources. Yet, we are prevented from using our skills, knowledge, and natural resources for traditional or commercial purposes by people who do not understand us, people who are struggling to come to terms with the sustainable use of the natural resources. ... [N]on-Indigenous peoples have no right to interfere with our customs, nor dictate the way in which we use and manage our natural resources."

Missi's concerns about restrictions on resource use and development by Indigenous Australians might be echoed by many Indigenous groups worldwide. In what ways might economic globalization affect resource development by Indigenous peoples? How might an Indigenous group's perspective on resource development be affected by globalization?

Research and Inquiry

- 5 Do you think that energy resources should be developed in national and provincial parks? Individually or in pairs, examine the debate over the US proposal to open the Alaska Wildlife Refuge to oil exploration on page 285. Plan how you will investigate the following questions: *What are some perspectives on this question from environmentalists and oil companies? Which of these perspectives do you tend to favour, and why?* When you have completed your basic research, participate in a respectful discussion about these questions in a small group setting. **SKILLS**