

Crude Sacrifice **Pedagogical Guide**

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Objective

To explore the controversial matter of the Alberta Tar Sands oil project, its effects on the environment and the various stakeholders so that students can develop critical thinking skills and a deeper understanding of the issues involved, allowing them to make educated assessments of the situation.

Target audience

Students aged 13 to 17

Connections

Language Arts, Science and Technology

Film needed for unit

Crude Sacrifice (documentary: 41 min 2 s)

Summary

Students will learn about the Alberta Tar Sands oil project, develop an understanding of Canada's role as a major player in world oil production, become aware of how North American lifestyle is totally dependent upon oil (cars, plastics, even food colouring) and grasp the fact that there is a huge economic, social and environmental cost to our dependence on oil. Students will be asked to explore the perspectives of the various stakeholders in the Tar Sands industry and see how each adapts the truth in order to fit his/her needs. Students will then be able to discuss the topic with their peers and write articles on the effects of the Tar Sands for a final discussion, as well as take a clear personal position on how our society should proceed in terms of oil production in Canada.

Essential questions of this unit of study

These questions will guide the students' learning and lead them to discover their own answers for the following:

- What is a lie?
- Is not telling the whole truth the same as lying?
- Why and when do we lie to ourselves? Can we live with the lie?
- Can we live without oil, and if not, can we live with the consequences of oil exploration and production?
- How do we treat each other, living things and our environment when it comes to maintaining our way of life?

What the students will know at the end of this unit:

(facts, information, vocabulary – see rubrics for assessment)

- A wide variety of products that we use in our everyday lives are made from oil.
- Tar Sands oil is extracted by pumping steam, which entails using massive amounts of fresh water. Waste product from the processing is placed in “tailing ponds” and eventually leaches into the groundwater.
- Ironically, Canada burns the least polluting fuel provided by the earth (natural gas) to extract the dirtiest oil known (Tar Sands soil).
- Birds often mistakenly fly into the tailing ponds, where they become trapped by the sludge and die.
- Fish in the rivers associated with this process become contaminated and cannot be eaten. These fish are the primary source of food in many Native communities.
- The way of life of the Cree is dependent on the land around the Tar Sands.
- Government agencies actively try to deny/suppress knowledge of the detrimental effects of this method of oil production.

At the end of this unit the students will understand that:

(concepts, principles, big ideas based on the goals of this unit – see rubrics for assessment)

- We are interconnected and dependent on each other and the environment.
- There are social, economic and environmental repercussions to all human activities.
- Engaged citizens reflect, participate and take a position regarding the impact of human activity on our environment.

What the students will do during this unit:

(skills and processes – see rubrics for assessment)

- Make meaningful contributions to a group discussion
- Express an opinion
- Infer based on information presented in the film
- Investigate what oil is used for in our society
- Define the problem clearly and accurately
- Describe the dilemma whereby we are extremely dependent on oil, but oil extraction has devastating effects upon our environment
- Explain the social, environmental and economic ramifications of oil production in the Tar Sands
- Analyze and interpret media information presented in the film and on websites
- Examine and write from the perspective of one of the stakeholders involved in the issue
- Formulate and propose their own point of view
- Justify their ideas and points of view
- Decide, from their perspective, whether they can live with the lie.

Fun Facts

See Appendix 1

The fun facts contribute to the student's general knowledge of the issue, giving a concrete understanding of some of the topics associated with this unit, i.e. the size of an oil spill, the amount of oil, etc. They follow the codes and conventions of a magazine and can be printed up and shared with students at the teacher's discretion (e.g. end of class fact-sharing, beginning of class warm-up, etc.). Alternatively, they can be posted in the classroom.

Activity 1 (Initiation) – We are the consumers

Approximate duration: 30 minutes

Note: It is important that the teacher not bias students' opinions or ideas when presenting this or any of the activities.

Material: Copies of "True or false?" quiz: Is petroleum used to make these products? (Appendix 2)

Step 1: Alone or with a partner, students will complete the quiz on which products include oil (see Appendix 2). No background information to be given at this stage.

Step 2: Teacher reads out answers to the quiz and students check their answers. Have the students share and comment upon any surprises! (See Appendix 3 for an expanded list of products that are made using petroleum.) The function of this activity is to make students aware of the fact that they are consuming oil products and that their own consumption patterns lead directly to the need for oil (it is not just the "Government" or their parents' fault – THEY directly consume oil).

Homework: Have students bring in objects from home that they use that are made from oil. Teacher should assign an area in the room where these objects can be placed, as they will be used in an activity later in this unit (see Activity 4).

Activity 2 – What are the Oil Sands?

Approximate duration: 50–60 minutes

The aim of this lesson is for students to gain a better understanding of the issues surrounding various uses of oil so that they can assess the importance of oil in Canadian society and industrialized countries in general.

Material: Flip-chart paper, computer, projector, screen, copies of graphic organizer (Appendix 4).

Step 1: Teacher asks students what they already know about oil production, the Tar or Oil Sands, and the global ramifications of Canadian oil production (i.e. that we are the fifth-largest producers of oil in the world and we have more oil than the Saudis). Write their perceptions on a flip-chart-size sheet of paper and then guide them toward a general understanding of how difficult it would be to simply stop using oil.

Step 2: Students are presented a film clip (National Geographic: *Megastructures – Alberta Oil Sands* ([youtube.com/watch?v=UYwHR9yb0IM](https://www.youtube.com/watch?v=UYwHR9yb0IM))). Tell the students they will eventually have to take a position on Canada's oil production.

Step 3: View the film clip (2 min 52 s), which shows how the oil is extracted.

Step 4: Teacher leads an open discussion, ensuring an understanding of what the Oil Sands are, the complexity of extracting oil, and our general addiction to oil.

Step 5: Students are arranged into informal groups of four to complete the graphic organizer provided, focusing on: Who is involved? What is happening? Where is this taking place? When is this happening? How does this happen? (See Appendix 4.)

Step 6: Students share their answers with the rest of the class as the teacher ensures clarity and understanding as to the issues. Teacher also returns to the initial perceptions written on chart paper (Step 1) and clears up any misconceptions at this time.

Homework: Students write personal reflections in journal: What are your first impressions of the issue of Tar Sands exploitation in Canada?

Activity 3 – Pro or con?

Approximate duration: 50–60 minutes

The aim of this lesson is for the students to be exposed to both sides of the debate about whether to extract oil from the Tar Sands or not. They will begin to form an opinion and their own point of view as they read the various arguments.

Material: Film *Crude Sacrifice*, projector, screen, computers or pre-printed material from websites (see bibliography), lined paper, index cards, pre-written chart paper headings: Pro, Con, Neutral (which will be posted around classroom), tape or tacks for students to post index cards.

Step 1: Begin the class by viewing *Crude Sacrifice*: Chapter 1 (“Introducing the Issues”) and Chapter 2 (“The People of Fort Chipewyan”).

Step 2: Teacher pairs students based on ability to cooperate together and work effectively. Students research available information about the Tar Sands, noting whether the websites they explore are pro the excavation of oil from the Tar Sands or against the practice.

- Research – via computer or pre-printed documents from the various websites (see bibliography).
- Students are required to find 10 sites about the Tar Sands. They are to explore each site briefly, record the URL of each site and rate each site under the headings Pro/Con/Neutral concerning the excavation of oil in the Tar Sands. (The number of sites to be found can be reduced depending on the ability of the students in the class.)
- Students must also find two surprising/interesting/shocking facts in favour of the excavation of oil in the Tar Sands and two facts against excavation to share with the class. Students will record these facts on index cards.

Step 3: Teacher draws students’ attention to the specific areas of the classroom designated for Pro, Con and Neutral as indicated by the chart paper headings. Students post each index card (with fact written on) in the designated area.

- Teacher can invite students to share their facts with the class, or else can give time for students to read other facts from the wall.

Step 4: Teacher asks students to move to the area of the room represented by the facts that they agree with at that moment. (This activity can be repeated during the unit as the students learn more about the issue.)

Activity 4 – Are oil-based products a need or a want?

Approximate duration: 50–60 minutes

Material: Film *Crude Sacrifice*, projector, screen, objects made from petroleum.

Step 1: Teacher has students view two more chapters from the film *Crude Sacrifice*: Chapter 3 (“Alberta Tar Sands”) and Chapter 4 (“Environment”).

Step 2: After viewing the two chapters, have students share their initial thoughts with a student sitting close to them. Allow time for students to discuss their reactions. Teacher invites students to ask questions to ensure clarity. (If a student asks a question that the teacher does not know the answer to, record the question on chart paper and return to the question at a later time in the unit.)

Step 3: Teacher draws students’ attention to the pile of products that have been brought in from home that are made using oil products. Teacher leads an analysis of some of the products and students help sort these products on the table into two categories:

- Objects they think they could do without.
- Objects they think they really need (cannot do without).

Step 4: Students complete their own written chart choosing other products on the table.

Step 5: Teacher goes through each object (depending on number of objects on the table) and has students indicate with a show of hands their decisions.

Activity 5 – The government’s role in the Tar Sands issue

Approximate duration: 50–60 minutes

Students begin to articulate their own point of view.

Material: Film *Crude Sacrifice*, projector, screen, student journals, index cards.

Step 1: View Chapter 5 (“Politics”) of *Crude Sacrifice*.

Step 2: Students write individual reflections in journals. Journal prompts:

- How is the government portrayed in this film?
- Does the Member of Legislative Assembly seem credible and sincere in the film?
- What is he saying?
- Is the government serving the people it is supposed to?
- Who does it serve?
- What about the health of other living creatures in our country?

Step 3: Teacher assigns students to small groups based on mixed ability. Teacher asks the question: Do you feel the government is acting to protect the interests of citizens? Students discuss in small groups, then report back to the class.

Step 4: Students summarize their group’s ideas in point form (two to four per group), write them on index cards and post them on the wall for others to view and refer to later.

Activity 6 – When is a lie a lie?

Approximate duration: 50–60 minutes

Material: Film *Crude Sacrifice*, projector, screen, index cards.

Step 1: View Chapter 6 (“Health”) of *Crude Sacrifice*.

Step 2: Teacher directs the students to first think on their own about the following questions:

- When do we lie?
- Is it ever right to lie?
- What is the/Is there a difference between a lie and not telling the whole truth?

Step 3: Students then pair up with the person closest to them and share their ideas (think/pair/share).

Step 4: Teacher leads a discussion based on the three questions stated above. Be sure to include the following points:

- When do we lie? (Santa Claus, Tooth Fairy, etc.)
- Is it ever right to lie? (Don’t want to get in trouble, the truth may hurt someone, etc.)
- What is the/Is there a difference between a lie and not telling the whole truth?

Step 5: Teacher instructs students to write an exit card to include the following:

- Write two “lies” that you think you heard in the film to date.
- State if you think these are lies or are simply not quite the truth.
- Exit cards can be written on small index cards and need not contain formal writing but rather point form.
- Exit cards can be used as formative assessment to assess students’ understanding during a unit of study. In this case, the answers given by students will indicate to the teacher if they have understood the concept of lying based on the essential questions of this unit: What is a lie? Is not telling the whole truth the same as lying? Why do we lie to ourselves? Can we live with the lie?

Step 6: Teacher keeps these cards, checks for understanding of the concept and distributes them again in activity 10.

Activity 7 – How do we treat others and the planet?

Approximate duration 50–60 minutes

Material: Film *Crude Sacrifice*, projector, screen, copies of graphic organizer (Appendix 5), question cards (Appendix 6).

Step 1: View Chapter 7 (“Chemical Contamination”) of *Crude Sacrifice*.

Step 2: Teacher distributes graphic organizer (see Appendix 5) to identify three things that the chemicals do to the environment. Students complete graphic organizer independently.

Step 3: Students share in small groups (group students based on effective working groups) to discuss findings based on graphic organizer.

Step 4: View Chapter 8 (“Effects on the Community”).

Step 5: Students will engage in a *reflective discussion* during and following the viewing of this chapter.

- Refer to the following link for more information about this teaching strategy: olc.spsd.sk.ca/DE/PD/instr/strats/reflectivediscussion/index.html. Assign one question card per student (see Appendix 6). The number of cards of the same question will depend upon the size of the class. Teacher should select and distribute questions appropriate to the level of each student. The question to be used should be written on two or more index cards as needed.
- Show Chapter 8, stopping the film where necessary to encourage students to reflect upon their question.
- Have students with the same question pair up and discuss their findings.

Step 6: Teacher leads a discussion to share findings.

Step 7: Students write a reflection in their journal (see notes re: reflection in the link cited above) using the following essential question as a guide: “How do we treat one another when we want or think we need something like oil?” Journals are handed in to teacher to assess for comprehension. Teacher addresses any discrepancies in comprehension at the beginning of the next class.

Activity 8 – Stakeholders of the Tar Sands issue

Approximate duration: 30 minutes

In this activity, students are assigned a viewpoint from a stakeholder on the issue of the Tar Sands. This will prepare them for when they eventually formulate their own point of view further in the unit.

Material: Film *Crude Sacrifice*, projector, screen, stakeholder cards.

Step 1: Students are given cards assigning the “stakeholder” they will represent during the viewing of Chapter 9.

- Some of the cards represent viewpoints that are more obvious than others.
- Teachers should assign cards based on ability of student to complete this activity.

Cards:

- Oil company representative
- First Nations person
- Doctor
- Environmentalist
- Politician
- Nurse
- Person buying a CD in Montreal

Step 2: Students view Chapter 9, looking for the viewpoint/perspective of the stakeholder they are given. Students take notes on the back of their card to support their role. Groups having the same role discuss their ideas with each other and informally present a summary of their point of view to the rest of the class.

Activity 9

Approximate duration: 90 minutes to two hours of in-class time, or use 50–60 minutes of class time and assign as homework to complete.

Role Audience Format Topic (R.A.F.T.) is a writing strategy that helps students understand a topic from different perspectives. It directs students to focus on a particular point of view.

Students may choose a particular role according to their interest.

Please visit the following website for a more detailed description:

learningthroughlistening.org/Classroom-Teaching-Tools/Strategies-and-Activities/Strategies/R-A-F-T-Strategy/349

Step 1: Teacher explains R.A.F.T. activity to students

- Students select one of the following rows, which include a specific role, an audience they will address, a writing format and a specific topic to write about. Students are encouraged to use pre-writing activities such as brainstorming, writing an outline of their topic ideas, writing a first draft etc. before beginning final draft of writing.
- Teacher may prefer to assign roles in cases of students with difficulties in writing.
- Students will use work completed to date that is posted on the wall, their own journals and/or websites previously cited as information for their piece.
- See rubric for assessment.

<u>Role</u>	<u>Audience</u>	<u>Format</u>	<u>Topic</u>
Doctor	Politician	Letter	Asking for money for a medical study to establish a baseline for the Cree population who live close to the Tar Sands
Alberta Politician	Constituents	Open letter in local paper	Why Alberta needs the Tar Sands
First Nations	Canadian Consumers	Poem	The effect of the Tar Sands on their environment
Oil Company	General Public	Advertisement	The benefits of the Tar Sands for Canada

Activity 10 – PowerPoint presentations

Approximate duration: 3–4 hours

Students are placed in groups (heterogeneous – one strong student, two average students, one below-average student per group) by the teacher. Teacher designates each group as being: First Nations; Oil company executive; people who live on the river; workers for the oil company (truck drivers); car drivers who want cheaper gas at the pumps; homeowners who want a break on their heating bills; environmentalists.

- Each group is given a perspective with regards to the Tar Sands issue and has to create a PowerPoint presentation of at least 12 slides describing, validating and defending their point of view.
- Slides must have images and use print sparingly (the groups of students must memorize their scripts and not simply write what they intend to say on their slides).
- The groups must use evidence covered in the film and in their research to support their claims; they cannot simply state their opinions or use hearsay (“People say that all the fish are dying...”).
- The presentation must have an unambiguous opening and a strong, clear ending.
- The presentation cannot be shorter than three minutes or longer than five.

Step 1: Give the students three classes in the computer lab to work on this in groups.

Step 2: Groups must then present to the class.

Step 3: Those listening to the presentations must take notes on what is being presented and be able to use them in the next activity.

Step 4: Following each presentation, the class asks questions of the group, challenging their perspective. They should especially look at the notion of the lies that differing stakeholders tell.

Step 5: When all groups are finished presenting, launch a general classroom discussion on the various points of view presented in the slide shows. Exit cards from Activity 6 are first redistributed. They can add information to the general discussion. During this discussion, have students think about the perspective they will take for their final essay.

Activity 11

Approximate duration: 100–160 minutes

Final summative assessment

Step 1: Students reread their journals, R.A.F.T. writing assignment and notes from the slide show presentations written during this unit and then answer the following questions, which are based on the essential issues of this unit:

- How do we treat each other, living things and our environment when it comes to maintaining our way of life?
- Who is lying in this situation, and is not telling the whole truth the same as lying?
- Why do we lie to ourselves about our oil consumption?
- Can we live with the lie?
- Can we live without oil, and if not, can we live with the consequences?
- What is the big lie?
- Who wins by lying in this situation?

Suggestions for final piece:

Students choose to write either an essay, a newspaper editorial or a script for a 30-second to 60-second commercial taking a stance on the issue.

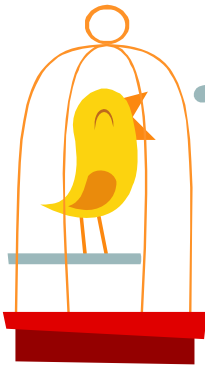
(Appendix 1)

Crude Sacrifice – Fun Facts

Did you know...



After an explosion on an oil rig owned by British Petroleum in the Gulf of Mexico off the coast of the United States, more than 300 million litres of oil spilled into the ocean during the summer of 2010 (*The Guardian*, June 10, 2010). That oil would fill over 120 Olympic-sized pools or Montreal's Place Ville Marie!



“A canary in a coal mine” is an expression that means a warning where something (or someone) has to suffer (or die) to save others. It comes from a practice of putting a canary in a cage and taking it into a coal mine with the miners. Since the canary's metabolism is much faster than a human's, the canary would die quickly if there was any poisonous gas in the mine and the miners would get out in time. Good for the miners, bad for the canary!

The *Exxon Valdez* was an oil tanker that hit rocks off the coast of Alaska in 1989 and spilled approximately 41 million litres of oil into the ocean. Until the BP Gulf spill in the summer of 2010, it was the most devastating environmental disaster caused by humans in history and led to many laws being passed to protect the environment. According to Wikipedia, there are still 26,000 gallons of oil on the beaches and rocks where the spill took place, which makes us wonder how good the cleanup of the Gulf will be (Wikipedia, 2010).



Each Canadian (that means you) consumes 10 litres of oil PER DAY. We are the seventh-highest consumers of oil in the world behind the U.S., China and Russia. Compare that to each person in India, who uses just half a litre per day. We are the fifth-largest producers of oil in the world and the largest supplier of oil to the U.S., providing more than 16 percent of their oil, a figure that keeps rising every year (U.S. Energy Information Administration, 2010).

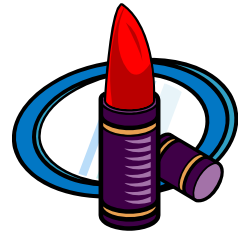
(Appendix 2)

True or False?

Answer the following questions with **T** (true) or **F** (false):

Petroleum **IS** used to make the following products:

1. Motor oil _____
2. Tires _____
3. Lipstick _____
4. Shower curtains _____

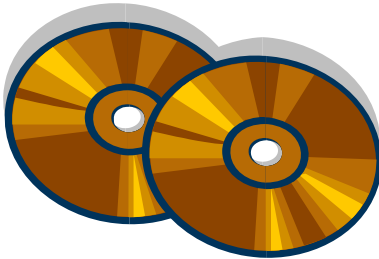


5. Perfume _____
6. Dentures _____
7. Antifreeze _____



Petroleum is **NOT** used to make the following products:

1. Sunglasses _____
2. Footballs _____
3. Drinking cups _____



4. CDs and DVDs _____
5. Tents _____
6. Shampoo/soap _____

7. Paint _____



(Appendix 3)

A partial list of products made from petroleum

(Adapted from Ranken Energy Corporation document, 2010)

Solvents	Diesel Fuel	Motor Oil	Bearing Grease
Ink	Floor Wax	Ballpoint Pens	Football Cleats
Upholstery	Sweaters	Boats	Insecticides
Bicycle Tires	Sports Car Bodies	Nail Polish	Fishing Lures
Dresses	Tires	Golf Bags	Perfumes
Cassettes	Dishwasher Parts	Tool Boxes	Shoe Polish
Motorcycle Helmets	Caulking	Petroleum Jelly	Transparent Tape
CD Player	Faucet Washers	Antiseptics	Clothesline
Curtains	Food Preservatives	Basketballs	Soap
Vitamin Capsules	Antihistamines	Purses	Shoes
Dashboards	Cortisone	Deodorant	Footballs
Skis	Life Jackets	Rubbing Alcohol	Linings
Tool Racks	TV Cabinets	Shag Rugs	Electrician's Tape
Mops	Car Battery Cases	Epoxy	Paint
Umbrellas	Slacks	Insect Repellent	Oil Filters
Roofing	Yarn	Fertilizers	Hair Colour
Denture Adhesive	Toilet Seats	Fishing Rods	Lipstick
Speakers	Linoleum	Ice Cube Trays	Synthetic Rubber
Tennis Rackets	Rubber Cement	Electric Blankets	Dice
Nylon Rope	Candles	Fishing Boots	House Paint
Water Pipes	Hand Lotion	Trash Bags	Surfboards
Shampoo	Wheels	Roller Skates	Shower Curtains
Guitar Strings	Luggage	Paint Rollers	Safety Glasses
Antifreeze	Football Helmets	Aspirin	Eyeglasses
Clothes	Toothbrushes	Ice Chests	Footballs
Combs	CDs and DVDs	Paintbrushes	Detergents
Vaporizers	Balloons	Sunglasses	Tents
Heart Valves	Crayons	Parachutes	Telephones
Enamel	Pillows	Dishes	Cameras
Anaesthetics	Artificial Turf	Artificial Limbs	Bandages
Dentures	Model Cars	Folding Doors	Hair Curlers
Cold Cream	Movie Film	Soft Contact Lenses	Drinking Cups
Fan Belts	Car Enamel	Shaving Cream	Ammonia
Refrigerators	Golf Balls	Toothpaste	Gasoline

(Appendix 4)

Graphic Organizer

Who?

Who is involved?

What?

What is happening?

Where?

Where is this taking place?

When?

When is this happening?

How?

How does this happen?

(Appendix 5)

Chapter 7 – Chemical Contamination



While watching chapter 7 of *Crude Sacrifice*, entitled “Chemical Contamination,” note how the chemicals used in the extraction of oil affect the environment. Write down three effects and be ready to describe your findings to your peers.

Effect #1

Effect #2

Effect #3

(Appendix 6)

Reflective Discussion Questions

1. What is the main issue presented in this chapter of the film?
2. How is the issue presented in this chapter connected to you?
3. List two questions you have after watching this chapter of the film.
4. What image from this chapter will stay with you? Why?
5. What solutions or recommendations are presented in this chapter?
6. Identify one point made in the film that you agree with and one point you disagree with. Explain why.
7. Identify two questions asked in this chapter of the film. What, if any, were the answers given to these questions?

Rubric for PowerPoint Presentation

POWERPOINT PRESENTATION RUBRIC

	Level 1	Level 2	Level 3	Level 4	Level 5
Use of research	Little evidence of research (opinion only).	Student shows some evidence of research but there are factual errors	Student displays some evidence of research, but opinion dominates presentation	Student presentation is well founded in facts researched	Student demonstrates a strong grasp of topic through her/his own voice
Codes and conventions of chosen work	Student does not demonstrate an understanding the codes and conventions of a Power Point	Student's work shows little resemblance to chosen format. (e.g. no images, poor choice of fonts and colors, etc.)	Student demonstrates a general understanding of Power Point.	Uses Power Point effectively.	Power Point presentation is near professional.
Voice	Piece never gains the reader's interest	Piece loses the reader's interest quickly.	Piece holds the reader's interest unevenly,	Piece establish an animated and sincere voice and tone that engages the reader's interest.	Confident and engaging voice and tone sustains the reader's interest throughout.
Use of scientific vocabulary	No attempt to use scientific terms.	Student occasionally attempts to use scientific vocabulary but demonstrates erroneous understanding of concepts.	Minor errors in terminology occasionally do not impeded comprehension	Student experiments with more complex terminology.	Students vocabulary is sophisticated.

E.I.A. (U.S. Energy Information Administration). "Crude Oil and Total Petroleum Imports Top 15 Countries." Retrieved September 22, 2010, from eia.doe.gov/pub/oil_gas/petroleum/data_publications/company_level_imports/current/import.html.

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Ranken Energy Corporation. "A few things made from petroleum." Retrieved August 20, 2010, from <http://www.ranken-energy.com/Products%20from%20Petroleum.htm>

U.S. Energy Information Administration. "Country Energy Profiles." Retrieved August 22, 2010, from tonto.eia.doe.gov/country/index.cfm.