

Index

A

- Abasand Heights, 76–77
Abasand Oils Limited, 77–78, 79–80, 84, 97, 98
Abdullah Bin Abdul Aziz, 210
Aberhart, William, 73, 109
Absher, Jacob, 69
Abu Dhabi, 108
acid rain, 165
activists. *see* environmental groups
Adkins, Elmer, 81–82
AEC (Alberta Energy Company), 9, 110, 114, 117, 118–119, 201
Afghanistan, 208
The Age of Intelligent Machines (Kurzweil), 227
Age of Oil, 19–21, 48–50, 213, 240
The Age of Spiritual Machines (Kurzweil), 227
agriculture
 importance of petroleum to, 20, 206, 223–224, 232–233
 revolution in, 235–236
AGW (anthropogenic global warming). *see* global warming
A.I. Smith, 77
airlines, 217
Alaska, 78–79
Alaska Highway, 78–79, 80
Alberta
 bankruptcy, 73
 control of Sands, 9–10
 crude oil production, 106
 environmental concerns, 195
 gas wells, 21
 location of Sands, 3
 natural resource control, 49, 64, 74
 northern research, 70
 nuclear bitumen extraction, 96
 oil sand initiatives, 130–131
 oilsands development policy, 98–100, 106, 108, 129, 131
 opposition to Petro-Canada, 117–118
 price controls, 122–123
 provincial currency, 109
 public support of Sands, 188
 rivalry with federal government, 61
 royalties, 113
 Syncrude project, 114–115
 taxes, 109–110, 153
 trust fund, 121
 Alberta Council of Scientific and Industrial Research, 60
 Alberta Energy Company (AEC), 9, 110, 114, 117, 118–119, 201
 Alberta Ingenuity, 132
 Alberta Ingenuity Centre for In Situ Energy (AICISE), 148–150
 Alberta Oil and Gas Conservation Board, 98, 99
 Alberta Oil Revenue and Royalty Plan, 111
 Alberta Oil Sands Technology and Research Authority (AOSTRA), 134–135, 138–140
 Alberta Research Council (ARC), 63, 66, 67, 70, 73, 83, 102
 Alberta Venture, 186–187
 Albian Sands mine, 214
 Alcan Oil Company, 81
 Algeria, 108
 al-Naimi, Ali, 209
 Al-Qamus Dictionary, 30
 Alsands, 126
 alternative energy
 blue, 226–227
 future of, 231–232
 growth of industry, 231
 solar energy, 227–230
 transition to, 18–21, 223–224
 American Petroleum Institute, 95, 222
 Amoco, 62n
 Anderson, Bob, 110
 Anglo-Persian Oil Company (now BP), 21, 50, 61, 135
 anthropogenic global warming (AGW). *see* global warming
 Antiquities of the Jews (Josephus), 28
 Appalachians, 15, 171
 aquaconversion, 149
 Aral Sea, 161
 Aramco, 219
 ARC (Alberta Research Council), 63, 66, 67, 70, 73, 83, 102
 Arcan (Atlantic Richfield Canada), 110, 114, 116
 ARCO (Atlantic Richfield), 62n, 105, 114

Index

- Areva, 143
Armstrong, Jack, 110
asphalt
 commercially successful product, 90
 demand for, 73
 experiments, 71
 leases, 46–47
 need for, 62
 paving contracts, 69, 70
 paving project, 55, 56
 plans for, 51
Athabasca Oil and Asphalt Company, 46
Athabasca Oil Sands Corp., 211n
Athabasca Oil Sands Project (AOSP),
 126–127, 131–132
Athabasca River
 leakage into, 11, 194
 petroleum investigation, 43–44
 protection of, 192
 trade on, 39
Athabasca Sands. *see* Sands
Athabasca Valley, 30–32
The Atlantic, xi
Atlantic Richfield (ARCO), 62n, 105, 114
Atlantic Richfield Canada (Arcan), 110,
 114, 116
Australia, 162, 177
Australian Youth Climate Coalition
 Summit, 185–186
automobile industry, 124, 208
automobiles
 effect on environment, 165
 natural gas conversions, 230
 needs of, 62
 oil industry development and, 48
 service stations, 91–92
 technology development, 237, 239
- B**
Babylon, 27–28
Bacon, Francis, 1
Baghdad, 29
Balfour, Clair, 113
Ball, Max, 9, 73–80, 84
Baltic Sea, 165
Bank of England, 175
Barlow, Maude, 158–160
Beaumont, Texas, 48
Bechtel-Price-Callahan, 78
Bell, Robert, 39–42
Benedict (Pope), 198
The Bible, 27–28
bin Laden, Osama, 210n
biodiesel, 236
biofuels, 224, 236
bitumen
 analysis of, 37, 41–42
 description of site, 1–2
 extraction, 69, 70, 71–72
 extraction research, 55–56, 63–64,
 65–68
 formation of, 23–24
 gasified for fuel, 145–146
 in history, 6, 24–30
 marketing of, 68
 nuclear extraction, 96–97
 paving with, 69
 processing plant proposal, 98–103
 production costs, 153
 recovery rate, 84
 reserve estimate, 3, 43
bituminous sands, 55
Bituminous Sands Advisory Committee,
 71, 72–73, 76
Bituminous Sands of Northern Alberta
 (Ells), 60
Bitumount plant, 80–83, 85, 105, 109
Black Tuesday, 71
BlackBerry, 135
Blair, Sidney, 63–64, 67–68, 83, 85–87, 97
Bloomberg, 188
Bloomer, Chris, 144, 145
blue, 226–227
Blue Shift
 emergence of, 19–20, 226–227
 Sands and, 240
 transitioning to, 223–224
 types of energy, 227–231
Blue Sunoco, 92
Bluetec, 227
Bonanza Creek, 44
Bono, 226
Book of Jubilees, 27
Borden, Henry, 105
boreal forest, 7–8, 131
Borealis project, 141
Borlaug, Norman, 235, 237
Bouchard, Luc, 198–199
Boundary Commission, 39
Bow Island, Alberta, 50
Bowman, Clement, 195
BP. *see* British Petroleum
Bretton Woods Agreement, 107
Britain, 16, 165, 189–190, 197–198

Index

- British Petroleum (BP), 13–14, 21, 61,
62n, 152–153, 205, 214, 219
British Petroleum Canada, 117
Brownlee, John, 70
Bruce Power, 143
bucket wheel excavators, 105
Buffett, Warren, 12, 19, 154
Burke, Edmund, 237
Burmah Oil, 61
Bush, George H.W., 163
Bush, George W., 175, 212, 238
Butler, Roger, 4, 18, 135–138, 143–144,
146, 202, 224
Butter and Cheese Exchange, 217
- C**
- Calgary, 50
Calgary Olympic Games, 118
Calgary Stock Exchange, 43
California, 20, 65, 220, 221
Camarta, Neil, 126, 133, 214
Campbell, Colin, 203–204
Campbell, Neve, 155, 159–160
Campbell, “Peace River Jim,” 45
Camrose, Alberta, 69
Camsell, Charles, 71
Canada
 climate exchange, 177
 concern for climate change, 189
 demonization of, 14–15
 environmental performance, 162
 exports, 209
 oil production, 64–65
 primary energy source, 95
 reserve estimate, 213
 settlement of, 38
 support of oil sands, 187–189
Canada, government of
 control of Sands, 9–10
 cross-border trading, 104–105
 energy strategy, 121–122
 environmental concerns, 195
 free trade agreement, 10, 124–125
 investigation of petroleum assets, 42
 leases, 76
 natural resource control, 64, 74
 nuclear bitumen extraction, 97
 oil company, 116–118
 oil policy, 113
 oil sands incentives, 131
 price controls, 121, 122–123
 research, 52, 59
 rivalry with Alberta, 61
 study of Sands, 40
 subsidy, 48–49
 Syncrude project, 115
 taxes, 108, 109–110, 153
 U.S. oil supply proposal, 112–113
Canada First Movement, 46
Canada Loan Council, 73
Canada-U.S. Free Trade Agreement (FTA),
 10, 124–125
Canadian Association of Petroleum
 Producers (CAPP), 222
Canadian Business Magazine, 191
Canadian Centre for Policy Alternatives,
 158
Canadian Energy Bank, 122
Canadian Energy Research Institute
 (CERI), 143
Canadian Natural, 147–148
Canadian Northern Oil Company, 76
Canadian Oil Companies Ltd., 80n
Canadian Oil Sands Network for Research
 and Development (CONRAD), 130
Canadian Oils Limited, 68
Canadian Pacific Railway (CPR), 42, 49,
 62, 78
Canadian Wartime Oil Administration, 79
Canadian Western Natural Gas Company,
 50
CanAmara Oil Sands Development Ltd.,
 83
Canol Pipeline, 78–79, 80
canola seed, 135
cap and trade, xiv, 15–16, 168, 170, 173,
 177–179
carbon capture, 147–148
carbon dioxide emissions
 data manipulation, 166–167
 effect of Sands, 11
 focus on, xi
 global versus Sands, 193
 impact of, 163–164
 in U.S., 161
carbon trade. *see* cap and trade
cars. *see* automobiles
Carter, Jimmy, 120–121
catalysts, 150
catalytic-cracking process, 48
Caterpillar 797Bs, 1–2, 132
Center for American Progress, 175
Centre for Oil Sands Innovation (COSI),
 132

Index

- Champion, Lloyd, 82, 89–90, 93, 97–98
Champlain Oil Products, 116
Chavez, Hugo, 175–176
Chester, Pennsylvania, 91
Chevron, 47, 62n
Chevron Canada, 126
ChevronTexaco, 62n
Chicago Board of Trade (CBOT), 178
Chicago Climate Exchange (CCX), xiv, 177–179
Chicago Climate Futures Exchange (CCFE), 177
Chicago Mercantile Exchange, 178
China
 climate exchange, 177
 demand for oil, 17, 95, 151, 204, 218
 greenhouse gas emissions, 162
 pollution, 161, 178, 232
 solar energy plants, 230
Chipewyan, 30–32
Chrétien, Jean, 131
Christian Science Monitor, 235
Christina Lake, 140, 141
Churchill, Winston, 49, 61
cities, 165
Cities Service Athabasca, 105, 110
Cities Service Canada, 114, 115
Cities Service Oil Co., 105
Citizens' 877-JOE-4-OIL, 175–176
Clapp, Frederick, 29
Clark, Joe, 121–122
Clark, Karl, 8, 57–74, 77–78, 82, 83, 85, 87, 88, 97, 103–104, 109, 162
Clark Hot Water Separation Method, 63
Clarke, John, 199–200
Clarke, Tony, 158
Clean Air Act, 235
Clearwater formation, 137
Clearwater River, 36, 39, 64, 71, 76
climate change. *see* global warming
Climate Confidence Monitor, 189
climate deniers (or realists), 13
Climate Exchange plc, 177
climate prediction models, 13
climate science funding, 163
Climategate (CRU leak), xiv, 13–14, 197, 220
Climatic Research Unit (CRU), 13–14, 166, 197, 220
Clinton, Hilary, 173, 220
Clintons, 175
Clipper pipeline, 173, 220
Clooney, George, 225
The Closing Circle (Commoner), 235
Clover Bar pilot plant, 102
Club of Rome, 235
CME Group, 178, 218
coal
 effect on environment, 171
 emissions credits, 178
 political campaign against, 170–171
 pollution from, 15
 power plants, 161, 165, 172, 198
 prices, 151
 as primary energy source, 95
 study, 70
 world output, 47
coke, 99
Cold Lake, Alberta, 136–138, 140, 193
Collyer, David, 191–194
Commoner, Barry, 235
companies. *see* oil industry
Conoco (Continental Oil Company), 62n
ConocoPhillips, 62n, 140, 141
conservation, 238–239
Consolidated Mining and Smelting (CM&S), 78
Constantine IV, 29
Copenhagen conference, 220
Corcoran, Terence, 15
corn, 236
COSI, 150
Coste, Eugene, 21, 50
cotton, 161
Cottrelle, George, 79, 84
Council of Canadians, 158, 159
CPR (Canadian Pacific Railway), 42, 49, 62, 78
Cree, 30–32
Crichton, Michael, 185
Crooks, Clive, xi
Crosbie, John, 122
cross-border trading, 104
 see also FTA; NAFTA
CRU (Climatic Research Unit), 13–14, 166, 197, 220
crude oil
 discoveries of, 61–62
 formation of, 24
 predictions of, 45
 processing of, 29
 prospecting, 51
cyclic steam stimulation (CSS), 137, 142

Index

D

The Dark Side of the Boom: Canada's Mordor, 160
David Suzuki Foundation (DSF), 180
Davis, Bill, 115
Dawson, George Mercer, 39, 44
de Gaulle, Charles, 107
Dead Sea, 29
Democrats, 172
Dene, 30–32
Denmark, 16, 162
Dickie, Bill, 114–115
Diefenbaker, John, 104
diesel, 49
Dingman, A. W., 44, 54
directional drilling, 133–134, 138, 139, 140, 230
Diver, Daniel, 69
Dome Petroleum, 126
Dover River, 134, 211n
Dowdeswell, Elizabeth, 177
Downey, Richard, 135
Doyle, Arthur Conan, x
Draper, Thomas, 69
drilling
 directional, 133–134, 138, 139, 140, 230
 inventions in, 135
Drouin, Marie-Josée, 112
Dubos, Rene, 174
Dunvegan, 64, 67
Dupont, 176
Dyer, Simon, 161, 191–195

E

Earth Council, 174
Earth Day, 226, 234
economy, public support for, 188
Edelman, Richard, 221–223
Edison, Thomas, 225
Edmonton, 44, 55, 56, 69, 73
Edmonton Bulletin, 43
Edmonton Journal, 87, 159–160
Edwards, Murray, 147–148
Edwards, W.M., 63
Ehrlich, Paul, 233–235
Einhorn, Ira, 234
Eisenhower, Dwight D., 97
electric cars, 48, 239
electrical industry, 172
Ells, Robert, 52
Ells, Sidney, 8, 21, 52–61, 65, 70–74, 76, 84, 87, 97, 103

Emergency Petroleum Allocation Act, 111
emissions markets, xiv, 15–16, 173, 177–179
EnCana, 119, 140, 141, 231
energy
 conservation, 238–239
 independence, 18–19, 213
 security, 208, 223–224, 236, 240
 transition to alternative, 18–21, 237–238
energy crisis, 106, 108
Energy Resources Conservation Board (ERCB), 105–106, 119, 141, 196
“Energy Self-Sufficiency by 1990,” 121–122
enhanced oil recovery (EOR), xiii
Envex, 177
environment
 damage to, 164–165
 effect of SAGD, 142
 growth of industry, 231
 improvements, 16, 194
 stewardship, 5
Environmental Defence, 161
environmental groups
 connection to oil industry, xi–xiv
 focus on the Sands, x–xi, 11–16, 160, 168–170
 goals of, 181–183
 links to Saudis, 207
 lobbyists, 237
 major players, 179–181
 public concern for climate change and, 190
 publicity tactics, xii, 154, 155
 strategy training, 186
environmental journalism, 160–162
Environmental Performance Index, 162
environmentalism
 development of green movement, 234
 popularity of, 188
 religion of, 183–185
ERCB (Energy Resources Conservation Board), 105–106, 119, 141, 196
ERCB Directive 74, 196
Eresman, Randy, 230
Esso (Standard Oil Company of New Jersey), 62n
E-T Energy Ltd., 148
ET-DSP, 144
Ethyl Corporation, 91
Europol, 16

Index

- Euphrates River, 28
Europe, 112, 177
European Climate Exchange, 177
European Union, 162
excavators, 102, 103, 105
exports. *see* FTA; NAFTA
extraction
 developments in, 147–150
 early experiments, 41–42
 hot water separation, 65–69, 71–72, 81
 nuclear, 96–97
 plant, 75–78
 research, 3, 10–11, 55–56, 63–64, 132–133
 steamless technologies, 143–146
 underground, 4, 69, 127
 see also SAGD
Exxon-Mobil, 14, 62n
- F**
famine, 233–234
fashion industry, 225–226
Fenton, David, xii
Fessenden, Reginald, 135
Feynman, Richard, xi
filling stations (automobile), 91–92
financial companies, 217
Financial Post, 15, 113, 221
Firebag, 94, 140–141, 142, 153
Fitzgerald, Joseph, 76n, 98
Fitzsimmons, Robert, 9, 73, 80–82
Flickr, 155
food
 improvements in agriculture, 235–236
 production, 20, 206, 223–224
 security, 232–234
Ford, Henry, 48
Fort Chipewyan, 11, 36, 159, 192, 193, 198
Fort Good Hope, 39
Fort McMurray, 36, 38–39, 46, 100, 131, 155, 198
Fort Simpson, 39
fossil fuels, importance of, 237–238
 see also specific fuels
Foster Creek, 140, 141
Fox news, 190
France, 16, 165, 226
Francis, Diane, 221
Franklin, Benjamin, 221
Franklin, John, 36–37
Fraser, A. W., 43–44
FTA (Canada-U.S. Free Trade Agreement), 10, 124–125
fur traders, 33–36, 39
Fyleman, Ernest, 66n
- G**
Gallup poll, 188
gasoline, 48, 91–92
Gates, Bill, 12, 154
GCOS (Great Canadian Oil Sands Ltd.), 9, 47, 80, 97–103, 106
GDP (Gross Domestic Product), 4
GE Capital, 176
General Electric, 176
General Motors, 91
Geological Survey of Canada, 39–42, 43, 45, 52
Germany, 229
Gesner, Abraham, 47, 135
Getty, Don, 110, 115, 118, 121
Gilbert, Ned, 94
Global Business Forum, 220–221
global climate exchange, 15–16
global cooling, 15, 162, 167, 234–235
global warming
 dangers of acting on, 215–216
 data manipulation, 166–167
 focus on the Sands, xi, 11–16, 168–170
 goals of publicizing, 181–183
 historically, 13, 165
 history of scare, 162–163
 impact on Sands, 163–164
 peak oil versus, 206
 politics of, 163, 173
 popularity of, 197
 public support for, 188–190
 science of, 183–184
Glomar Explorer, 91n
GloriOil Limited, xiii
goats, 164–165
gold standard, 107
Goldman Sachs, 173, 176, 177
Gomorrah, 29
Gore, Al, x, xii, xiii, 12, 15–16, 163, 164, 168–169, 176, 182, 186, 207, 225
Gore, Albert, Sr., xiii, 169
Gosling, James, 135
Gray, Earle, 44, 110, 117
Gray, Murray, 132
Great Canadian Oil Sands Ltd. (GCOS), 9, 47, 80, 97–103, 106
Great Cattle Killing, 215–216

Index

- Great Depression, 71, 73, 92, 109
Great Slave Lake, 8, 36
Greaves, Malcolm, 144–145
Greek fire, 29
green groups. *see* environmental groups
green movement, development of, 234
Green Revolution, 235
Greenfield, Herbert, 59
greenhouse gas
 conventional oil versus Sands, 194
 predicted emissions, 192
 Sands emissions, 154
 world emissions, 162
Greenpeace, xi, 12, 155, 180, 181, 222, 235
Greenspan, Alan, 151
Gretzky, Wayne, 126
grid parity, 229
Grist Magazine, 182
Gross Domestic Product (GDP), 4
Guardian, 14
Guilbeault, Steven, 183
Gulf Canada, 110, 114, 115, 117
Gulf of Mexico, 205, 214
Gulf Oil, 83, 90
- H**
- Haanel, Eugene, 52, 57, 58, 59
Hamer, William, 55–56
Hammer, Armand, xiii, 168–169
Hanging Gardens of Babylon, 28
Hansen, James, 168, 175
Harding, Tom, 133
Hardisty, W. L., 39
Harper, Stephen, 147
Harris/Decima poll, 188
Harvie, Eric, 47
Hayes, Denis, 234
Heat: Burning Planet (Monbiot), 175
heavy oil, 3, 150
Hell and High Water (Romm), 175
Heritage Savings Trust Fund, 121
Herron, William, 54
Hibernia oil field, 116
Hirsh, Robert, 204
Hit, Iraq, 25–26
Hoffman, Christian, 41
Hoggan, Jim, xii, 180
Holland, 16
Holtom, Chris, 201
Home Indians, 31–32
Homer-Dixon, Thomas, 168, 205
Honorary Advisory Council for Scientific and Industrial Research, 57
Hopper, Bill, 116
horizontal drilling, 133–134, 138, 139, 140, 230
Horse River Reserve, 74, 75, 76, 84
horses, 47
hot water separation, 56, 63–64, 66–68, 69, 71–72, 81
hot water-steam process, 74
Houdry, Eugene, 48
Howe, C.D., 79
Howes, D.A., 87
HSBC, 231
Hubbert, M. King, 17, 95–96, 203
Hudson Bay, 23
Hudson's Bay Company (HBC), 30–33, 36, 38, 39
Hudson's Bay Oil and Gas, 126
Husky Energy, 141, 152–153
Hussein, Saddam, 125, 161
hybrid vehicles, 239
hydro transport, 132
hydrocheater, 148
Hydrolene, 90
Hyndman, Lou, 121
- I**
- Ibn Saud, 207, 210
Idris (King), 169
Imperial Oil, 46, 62, 83, 105, 110, 114, 115, 116, 132, 136–138, 146
imports. *see* FTA; NAFTA
in situ combustion (ISC), 144
An Inconvenient Truth, 14, 164
India
 demand for oil, 17, 95, 151, 204, 218
 pollution, 178, 232
inflation, 107
Institute for Public Policy Research, 189–190
Intergovernmental Panel on Climate Change (IPCC), xi, xiii, 14, 163–164, 165–166, 175
International Bitumen Company (IBC), 81–82
International Energy Agency, 18, 202, 213, 214
International Wildlife, 235
IPCC (Intergovernmental Panel on Climate Change), xi, xiii, 14, 163–164, 165–166, 175

Index

- Iran, 107, 120, 208, 219
Iraq, 107, 108, 120, 161, 208
Ireland, 162
Island Coal Creek Co., 169
Israel, 29
- J**
Japan, 112
Jaremko, Deborah, 187
Jasper National Park, 70
Java programming language, 135
Jericho, 27
Jersey Standard, 62n, 91
Johnson, Lyndon, 124
Jones, Phil, 166
Josephus, Flavius, 28
Joslyn SAGD project, 141–142
Joule Biotechnologies, 236
journalists, 155
Joyce Foundation, 177
Juliet, Georgia, 161
- K**
Kahn, Herman, 111, 112
Keele, Joseph, 57–58
Kelsey, Henry, 31, 33
Kennedy, Joseph, 175–176
Kennedy, Robert, Jr., 225
Kermit the Frog, 220
kerosene, 29–30, 47, 135
Kerry, John, 175
Key Lake, 143
Khaki University, 57
Kipling, Rudyard, 42, 157
Kirby Lease, 140
Klein, Ralph, 10, 122, 127, 129–131, 196
Kleiner Perkins, xiii
Klondike, 44–45, 51
Knight, James, 30–32
Kreider, Kalee, xii
Kunstler, James Howard, 205
Kurzweil, Ray, 19–20, 213, 227–229
Kuwait, 107, 108, 125
Kuznicki, Steven, 150
Kyoto Climate Change Treaty, xiii, 14–15
- L**
Labartu, 26
Labrador, 116
Lalonde, Marc, 122
lamp oil (kerosene), 29–30, 47, 135
Lamphier, Jerry, 159–160
Land Surface Conservation and Reclamation Commission (LCRC), 108
Langevin, 42
Laricina Energy, 147
Larter, Steve, 149–150
Lau, John, 152
Laurier, Wilfred, 48
Laurier government, 48–49, 109
Lazaridis, Mike, 135
Lease 86, 94, 98
leases
 for asphalt production, 46–47
 conditions for development of, 75
 as development incentive, 88
 follow up of, 192
 price increases, 131
 retained by federal government, 74
Leduc, Alberta, 83, 84
Lehman, Adolph, 59, 63
Level Blue Limited, 227
Libya, xiii, 108, 169
The Limits to Growth, 235
Little Ice Age, 13, 15, 165, 184, 223, 236
Lloydminster, Saskatchewan, 150
Long Lake, 145–146
Lord of the Rings (Tolkien), 157
Lougheed, Peter, ix, 106, 108, 110, 113, 114, 115, 118, 121, 123, 129, 193, 195
“Lougheed Levy,” 122–123
Lovejoy, Thomas, 178
low-impact mining, 150
- M**
Macdonald, Donald, 112, 113, 115, 124
MacKay River, 140, 141, 211n
Mackenzie, Alexander, 35–36
Mackenzie Delta, 231
Mackenzie River, 36
Macoun, John, 38, 39–40
Mailer, Norman, 184
Mallik gas hydrate field, 231
Malmberg, Earl W., 102
SS Manhattan, 91n
Manitoba, 64
Mann, Michael, 164
Manning, Ernest, 82, 86, 98–100, 106
Mansell, Robert, 196–197
manufacturing industry, 240
Marathon Oil Company, 62n
Marcus Hook, Pennsylvania, 48, 90
markets, 217–218
Marsden, William, 58, 60, 161

Index

- Masjid-e-Soleiman, Persia, 21, 50
Masliyah, Jacob, 132
Mather, Clive, 3
Matthews, Chris, 175
May, Robert (Lord), 185
McAfee, Jerry, 110
McCain, John, 175
McClave, James, 74, 76, 77, 78, 84
McConnell, R.G., 43, 58
McCullagh, Declan, 179
McDonald, Craig, 148
McGee, Bruce, 148
McIntyre, Steve, 14
McLellan, Anne, 131
McLuhan, Marshall, 219
McMurray, William, 39
McMurray Asphaltum and Oil Company, 69
media, 160–162, 190
Medicine Hat, Alberta, 42, 69
Medieval Warm Period, 13, 165, 184
Mediterranean Sea, 226
Mellon Institute of Industrial Research, 55–56
Mercedes-Benz, 227
Mesopotamia, 25–30
methane, 150, 178
Middle Ages (Medieval Warm Period), 13, 165, 184
Middle East, 24–30
 see also OPEC; Saudi Arabia
Mildred Lake, 76, 84, 105
mineral rights, 49, 64, 74
Mines Department of Canada, 70
mining
 environmental concerns, 142, 195
 low-impact, 150
Mitchell, Dave, 115, 118–119, 201–202
Mitchell, Joni, 4
Moberley, Walter, 39
Mobil, 62n
molecular sieve, 150
Monbiot, George, 14, 175
Montreal Climate Exchange, 177
Mooney, Bill, 105–106, 115
Mordor, 12, 157–158, 159
Morgan, Gwyn, 119
Moses, 27
mountain top removal (MTR), 171
Moyers, Bill, 175, 176
Mulroney, Brian, 123
Mulroney government, 123, 124, 125
mummies, 29
Muskeg River Mine, 126–127
- N**
Nabopolassar, 28
NAFTA (North American Free Trade Agreement), 10, 125
al-Naimi, Ali, 209, 210
Nairobi, Kenya, 174
Nanaimo, British Columbia, 49
naphtha, 29–30
NASA, 167
National Energy Board (NEB), 105
National Energy Program (NEP), 122, 123
National Geographic, 171, 198
National Oil Sands Task Force, 130
National Recovery Act, 92
National Research Council of Canada, 60n, 70
Natland, Manley, 96–97
natural gas
 early industry development, 50
 first strike, 42
 formation of, 24
 future use, 224, 230
 increased production, 204, 210
 reserves, 231
 study, 70–71
 use in extraction, 4, 133, 142, 143
Natural Resources Act, 70
Natural Resources Canada, 143
Natural Resources Defense Council (NRDC), 180
Natural Resources Transfer Agreement, 74
Nature Canada, 181n
The Nature of Things, 180
Neanderthals, 24–25
Nebuchadnezzar II, 27–28
Nelson, Ed, 85–86
Nelson, Gaylord, 234
Nesbitt Thomson, 77
Netherlands, 208, 240
New Deal, 92
New Democratic Party (NDP), 116, 159
New Norway, Alberta, 95
New York Mercantile Exchange (NYMEX), 178, 217–218
The New York Times, 190, 226, 234
Newfoundland, 116
Newsweek, 235
Nexen Inc., xiii, 140, 145, 150
Nickle's Oil Bulletin, 93, 99–100

Index

- Nikiforiuk, Andrew, 161, 181
9/11 terrorist attacks, 208, 209, 217
Nixon, Richard, 107, 111–112
Noah, 27
non-aqueous extraction, 150
Nongqawuse, 215–216
Norman Wells, 79
North American Kerosene Gas Light Company, 47
North Sea oil, 198
North West Company Ltd., 9, 34–36
Northern Alberta Railway, 56, 67
Northstar Energy Ltd., 134
Northwest Company Ltd., 62
Norway, 240
Nova Scotia, 116
nuclear energy, 96, 143
nuclear extraction, 96–97
NYMEX (New York Mercantile Exchange), 178, 217–218
- O**
- O&K bucket wheel excavators, 102
Obama, Barack, 160, 170–171, 172, 173, 175, 177, 197, 210, 220
Obama administration, 179
Occidental Petroleum Canada Ltd., xiii
Occidental Petroleum (Oxy), xiii, 168–169
offshore resources, 104
offshore wells, 117
Ohio Oil Company, 62n
oil
 demand for, 48, 64–65, 204
 earliest industry, 25–26
 early sales, 39
 global production, 17
 power and, 213
 prices, 5–6, 151–152, 212, 217–219
 as primary energy source, 95
 subsidies, 48–49
 see also peak oil
Oil Age, 19–21, 48–50, 213, 240
oil embargo, 208
oil industry
 advantages of Sands, 239–240
 in agriculture, 20, 206, 223–224, 232–233
 bitumen extraction lobby, 98
 connection to environmental groups, xi–xiv
 political donors, 172
 pricing controls, 107–108
 public relations, 219–220, 221–223
 response to environmental concerns, 13, 190–191
 speculation, 43
 stability, 215
oil sands. *see* Sands
“The Oil Sands: A New Energy Vision,” 130
Oil Sands Conference, 87–88
Oil Sands Interpretive Centre, 153–154
Oil Sands Limited, 82, 93, 97
oil shale, 29–30, 168, 172n
oil shocks, 108, 208
Oklahoma, 65
Olbermann, Keith, 175
Old Testament, 27
Olds, Ransom, 48
Olympic Torch Relay, 118
Only One Earth, 174
Ontario, 64, 115, 188
OPEC (Organization of Petroleum Exporting Countries), 107–108, 111, 120, 123, 208, 209
Open Society Institute, 175, 207
OPTI Canada Inc., 140, 145
O’Reilly, Bill, 175
Ottawa, 69
- P**
- Pachauri, Rajendra, xiii, 178, 186
Pacific Petroleum, 117
Page, Larry, 228
Panarctic Oils, 116
PanCanadian Energy Corporation, 119
Parkland Institute, 158
Pasternack, David, 70, 71–72
patents, 70, 74, 226
Patton Boggs LLP, 207
Paulson, Stan, 83
Pavillon Bleu, 226
paving. *see* asphalt
Peace River, 40, 140
peak oil
 about, 17–19
 dangers of acting on, 215–216
 demand for oil, 204
 global production, 203
 incorporating global warming, 206
 new discoveries and, 205
 predictions of, 95, 164
 Sands and, 202, 212–213
 Saudi Arabia and, 207, 210
 supply stability, 218–219

Index

- Pearson, Lester, 124
Pelican Rapids, 44
Pembina Institute, 11, 180
Pemex, 219
Pereira Almaso, Pedro, 148–149
Persian Gulf War, 125
Petrobank Energy, 144, 145
Petro-Canada, 10, 114, 116–118, 122, 123, 125, 140, 141
Petro-Canada Exploration, 116
PetroChina, 211
Petroleos Venezuela, 219
Petroleum Administration Act, 115
Petroleum Bounty Act, 48–49
Petroleum Club, 98
Pew, J. Howard, 9, 48, 88, 89–94, 98–99, 101–102
Pew, J.N., Jr., 92
Pew, John Edgar (Jack), 82, 89–90
Pew, Joseph Newton, 48, 90
Pew Foundation, 175
Pew Research Center poll, 188
Pickens, T. Boone, 230
Pierre au Calumet, Alberta, 37n
pipelines, 78–79, 80, 173, 220
pitch. *see* bitumen
Plan Bleu, 226
plug-in electric vehicles, 239
Poland, 165
Polaris Institute, 158
political campaigns, 170–171
political donors, 172
pollution
 addressing concerns, 195
 as commodity, 178
 diverting attention from, xi, 15–16
 variety of, 164–165
Pond, Peter, 33–35
population, 233–234
The Population Bomb (Ehrlich), 233
potash, 136, 151–152
Power Shift, 186
Preliminary Report on the
 Bituminous Sands of Northern
 Alberta, 54
Pricewaterhouse Coopers, 193
Primrose military reserve, 119
Project Cauldron, 96–97
Project Independence, 111–112
Project Oil Sands, 97
propane, 147
prospectors, 6–7, 51
- Q**
Qatar, 108
Qorvis Communications Inc., 207
Quebec, 115, 188
- R**
radio wave broadcasting, 135
Rea, Harold, 80n
Reagan government, 124
religion
 of environmentalism, 183–185
 pace of development debate, 198–200
renewable energy. *see* alternative energy
Republicans, 172
retail industry, 217
rice, 152, 235
Rice, Condoleeza, 203
Richardson, John, 36–37
Richfield Oil, 96–97
Rio conference, 174
road materials. *see* asphalt
Roberts, Julia, 225
Robinson, John, 86
Rockefeller, John D., 62, 90
Romm, Joe, 175
Roosevelt, Franklin D., 92, 207, 210
Ross Smith, 141
Royal Canadian Mounted Police, 109
Royal Commission on Energy, 104–105
Royal Dutch Shell, 46
Royal Navy, 49, 52
Royalite Oil Company, 62, 83, 105
royalties
 consistency in, 130
 as development incentive, 88
 federal tax, 109–110
 super royalty, 113
Rupert's Land, 39
Russia, 204, 210–211
Ruth Lake, 76
- S**
Sagan, Carl, 17
SAGD (steam assisted gravity drainage)
 closed-loop process, 145–146
 development of, 11, 137–139
 disadvantages of, 142
 importance of, 18, 127, 135–136, 224
 industry use of, 140–142, 151
 process, 4, 133–134
 research, 133
Samuel, Marcus, 49

Index

- Sandor, Richard, 177–179
- Sands
- companies' interest in, 61–62
 - considerations for development, 84–85
 - content analysis, 67–68
 - demonization of, x, 12–15, 169–170, 171
 - development initiatives, 88
 - drilling in, 45–46
 - earliest development, 8–9
 - effect of oil discoveries, 83
 - European discovery of, 30–36
 - formation of, 23–24
 - government study of, 40
 - location of, 3
 - oil drilling versus, 214–215
 - pace of development, 130, 191–194, 198–200
 - production, 202
 - reports, 54, 86–87
 - research, 62–63
 - reserves, 3, 18, 43
 - supply stability, 218–219
 - survey of, 36–37, 39–41, 43–44, 52–53
 - Syncrude site, 1–2
 - tours, 154
- Sargon, 26, 27
- Saskatchewan
- location of Sands, 3
 - mineral rights, 49, 64, 74
 - projects, 141
- Saudi Arabia
- market price and, 217
 - OPEC and, 107
 - production cuts, 108
 - relationship with U.S., 207–212
 - reserves, 18, 204, 213
 - supply stability, 219
- Saunders, Charles, 135
- Scherer, 161
- Schlumberger, 133, 139
- Schmidt, Glenn, 147
- Schneider, Steven, 182–183
- Science Digest*, 235
- Scotford upgrader, 127
- Sellars, Gordon, 110
- Senlac project, 141
- service stations (automobile), 91–92
- Sesame Street*, 220
- Shell Oil, 13–14, 61, 95, 106, 115, 126, 214
- Shell Oil Sands, 126
- Sheppard, Mary Clark, 103–104
- shipping industry, 217
- ships, 48
- Sierra Club, 180
- Sierra Club Canada, 160
- Simmons, Matthew, 204, 212
- Simon, Julian, 216
- Slave River, 36
- Slipper, Stan, 44
- Smith, Donald (Lord Strathcona), 49–50
- Smith, Earl, 68, 84
- Socony (Standard Oil Company of New York), 62n
- Sodom, 29
- solar energy
- for energy security, 236
 - innovations in, 227–230
 - large-scale plants, 229–230
 - transition to, 19–20, 96, 224, 238
- Solar Era, 19–21
- solvent-cyclic SAGD technology, 147
- Soros, George, 174–176, 207
- South Africa, 215
- South Korea, 112
- Soviet Union, 161, 217, 219, 227
- Spain, 229
- Spindletop, 48, 90
- Spraggins, Frank, 110
- Sprott, Eric, 202
- stability of oil supply, 218–219
- Standard Oil Company, 47
- Standard Oil of California (Socal), 62n
- Standard Oil of Indiana (Stanolind), 62n
- Standard Oil of Kentucky (Kyso), 62n
- Standard Oil of Ohio (Sohio), 62n
- starvation, 233–234
- steam assisted gravity drainage. *see* SAGD
- Steep Bank mine, 131
- Stefansson, Baldur, 135
- Stelmach, Ed, 196
- Stewart, Charles, 66
- Stewart, Christine, 183
- Stewart, William, 31–32
- Stockholm conference, 174
- Stossel, John, 190
- Strathcona, Lord (Donald Smith), 49–50
- Stringham, Greg, 214
- strip mines
- in Appalachia, 171
 - cleanup directive, 240
 - environmental groups and, 161
 - environmental impact of, 103
 - estimated production, 141, 202

Index

- location of, 34, 105
 - new technology, 3
 - Strong, Maurice, xiii–xiv, 116, 174, 177, 182, 235
 - Stupid to the Last Drop* (Marsden), 161
 - Suffield military reserve, 119
 - sulfur, 2, 99
 - sulfur dioxide, 165
 - sun, 15
 - Sun Company Inc., 89–94
 - Sun Company of Canada, 92
 - Sun Oil Company Ltd., 82, 88, 92, 97–100
 - Sun Red Stock, 90
 - Sun Shipbuilding, 91
 - Suncor Energy, 9, 47, 48, 83, 103, 123, 131–132, 140–141, 142, 153, 187, 214
 - Sunoco, 62n
 - Sunrise SAGD project, 152–153
 - Supreme Court of Canada, 109
 - Surmount, 140
 - Suzuki, David, 180–181
 - Svensmark, Henrik, 223
 - Sweden, 165
 - Syncrude Canada, 1–2, 76, 105–106, 110–111, 114, 116, 119–120, 123, 131–132, 141, 142, 153
 - Syncrude Sweet Blend, 120
 - synthetic crude
 - cost of production, 5, 214
 - energy security of, 239–240
 - need for, 52
 - plant proposal, 98–103
 - re-engineering processes, 123–124
 - synthetic fuels program, 97–98
- T**
- tailing ponds
 - cleanup of, 3, 11, 186–187, 196
 - size of, 194
 - at Syncrude site, 2
 - Tanner, Nathan, 88
 - tar, xv, 9, 55
 - Tar Island, 80, 98, 187
 - tar sands, xv
 - see also Sands
 - Tar Sands Film Festival, 160
 - Tar Sands* (Nikiforiuk), 161, 181
 - Tar Sands Showdown* (Clarke), 158
 - Tar Sands: The Selling of Canada*, 160
 - Tar Sands Watch, 158
 - Tata Industries, xiii
 - taxes, 4, 109–110, 173
 - Taylor, Peter, 15
 - Teller, Edward, 96
 - TERI Energy Research Institute, xiii
 - Terra Nova oil field, 117
 - terrorist attacks, 208, 209, 217
 - Tesla, 20
 - Texaco, 90
 - Texas Railroad Commission, 107
 - THAI (toe to heel air injection), 144, 145
 - Thanadelthur, 30–32
 - Thant, U, 174
 - Thatcher, Margaret, 163
 - This Fascinating Oil Business* (Ball), 75
 - 388th Engineer Battalion, 78
 - Tianjin Climate Exchange, 177
 - toe to heel air injection (THAI), 144, 145
 - Toledo, Ohio, 152
 - Tolkein, J.R.R., 157, 195
 - Toronto Stock Exchange, 77
 - Tory, Henry Marshall, 57–60, 64, 65–66, 70–71
 - Total, 141–142, 143
 - Touche, Vincent Investment Consultants, 102
 - Tower of Babel, 27, 28
 - Township 85, 62
 - trains, 48
 - Troubled Asset Relief Program (TARP), 179
 - Trudeau, Charles-Émile, 116
 - Trudeau, Pierre, 111, 116, 123
 - Trudeau government, 108, 113–114, 115, 122
 - Truman, Harry, 79, 97
 - Tucker project, 141
 - Turki al-Faisal, 211–212
 - Turner, Ted, 178
 - Turner Valley, 52, 62, 64–65, 71
 - Twain, Mark, 191
- U**
- underground extraction, 4, 69, 127
 - Underground Test Facility (UTF), 134
 - United Kingdom, 16, 165, 189–190, 197–198
 - United Nations, 159, 174
 - UN Conference on Environment and Development, 174
 - UN Conference on the Human Environment, 174

Index

- UN Environment Program (UNEP), 174
United States
 climate science funding, 163
 coal-fired power generation, 15, 161, 172
 energy independence, 213
 environmental performance, 162
 expansion, 37–38
 free trade agreement, 10, 124–125
 import policy, 202–203
 oil imports, 5, 120–121
 oil supply proposal, 112–113
 politics, 172–173
 price controls, 111
 production peak, 93, 95
 public concern for climate change, 189
 relationship with Saudi Arabia, 207–212
 synthetic fuels program, 97–98
 terrorist attacks, 208, 209, 217
U.S. Army, 78
U.S. Atomic Energy Commission, 96
U.S. Bureau of Mines, 61
U.S. Department of Treasury, 179
U.S. dollar reserves, 107
U.S. Environmental Protection Agency (EPA), 166, 235
U.S. Geological Survey (U.S.G.S.), 75
U.S. Navy, 96
U.S. Patent and Trademark Office, 226
Universal Oil Products Company, 67, 68
University of Alberta, 57–59, 62–63
University of Calgary, 132, 148–149
University of East Anglia, 166
Ur period, 26
uranium, 143
UTF, 138–139
- V**
Vacuum, 62n
Valhalla, Alberta, 117
Vanity Fair, 159, 225
VAPEX (vapor-assisted petroleum extraction), 144
Vegreville, Alberta, 69
Venezuela, 107, 204, 210–211, 219
- Vietnam War, 107
Von Hammerstein, Alfred, 7, 45–47
- W**
Wahhabi Islam, 209
Wallace, Robert, 71
Wa-Pa-Sun (The Swan), 33
Ward, Barbara, 174
Wartime Oil Administration, 80n
Washington Post, xii, 190
water, 142, 192, 193
Waterton, 39
Waterways plant, 71, 73
Watt, Kenneth, 235
Western Oil Sands, 126
wheat, 135, 235
Whitehorse, Yukon, 79
Will, George, 12
Wood Buffalo, Regional Municipality of, 197
Woodland caribou, 192
World Energy Conference, 120
World Financial Center, 218
World Trade Center terrorist attacks, 208, 209, 217
World War I, 52, 61, 91
World War II
 demand for petroleum, 80n
 federal control of economy, 109
 oil security, 78–80
 oil supply sites, 84
 role of oil, 75
 shipping routes, 91
World Wildlife Fund (WWF), xi, 180, 181
- X**
Xhosa tribe, 215–216
- Y**
Yamani, Ahmed Zaki, 120, 123, 209, 210, 213
Yedlin, Deborah, 146
Yergin, Daniel, 214
York Factory, 30–33
- Z**
Zammit Cutajar, Michael, 178