

Selected excerpts from *Coming Clean*, by Michael Brune



Whether peak oil is imminent or a few decades away shouldn't make much difference in how we respond to the threat. Oil is a finite resource. For every barrel of oil we discover, we now consume three, and global demand is expected to increase nearly 40 percent in the next few decades. You don't need to be a math expert to calculate that trouble lies ahead. Given this reality, it's not surprising that some policymakers are seeking to exploit parks and wilderness areas or to cut deals with unsavory governments to get access to every puddle of oil available. But like a junkie searching for veins in his toes, this irrational and desperate scramble for oil is corrupting the idea of what it means to be an American. Trying to drill our way out of our oil addiction could end up costing us not just our economic future but our souls...

About *Coming Clean* (from the Introduction)

No doubt you've been told to change your light bulbs, properly inflate your tires, turn down the thermostat, and vote every year or so. Those are all useful ways to help create a clean-energy future. But they're not nearly enough. Let me be blunt: if we only take individual action and do nothing else to save our climate, we're probably cooked. We need to aim higher by changing corporate America and challenging our political leaders.

Rather than hope that 125 million drivers will each buy the most fuel efficient car possible, we can work together to convince Detroit to make *all* cars clean, not just a token few. Rather than harangue each of 300 million Americans to buy the best dishwasher, refrigerator, or dryer, we can join forces to set national standards for efficiency so that all appliances, buildings, and factories are as efficient as possible, reducing costs and emissions at the same time.

Coming Clean sets its sights on identifying ways that Americans can work together to achieve big wins that will break our addiction to oil and coal. There are plenty of books that focus on describing the human and ecological costs of fossil fuels and/or climate change. This is not one of them. There are other excellent books that survey and evaluate the range of technological solutions to our energy crisis. Not this one.

This is a book about action. At its core, *Coming Clean* is inspired by two hopeful notions: that as a society we possess practical and attractive solutions that can replace oil and coal, and that as individuals we possess the ability to unite and work together to improve each other's lives...

...Breaking our addiction to oil and coal is both patriotic and principled. Yet many are losing confidence that we can meet this challenge. The essential purpose of *Coming Clean* is to present evidence that we can, and to provide a hopeful, helpful, do-it-yourself guide to making it happen. Big Oil and King Coal may have armies of lobbyists, lawyers, foreign diplomats, and even military advisors, but Americans know that we can do better for ourselves, our country, and our fellow humans. As the writer Arundati Roy says, “Another world is not only possible, she is on her way. On a quiet day, I can hear her breathing.”

A Deeper Form of Patriotism (from the Introduction)

Americans’ fundamental sense of fairness and justice led us to end slavery, ban child labor, and secure women’s right to vote. American ingenuity and determination cured polio worldwide, mapped the human genome, and has put sixty thousand songs and videos in the palms of our hands. We invented jazz, rock and roll, baseball, and the Philly cheese steak. Our self-reliance and individual sacrifice has, until recently, enabled each generation to do better than the one before it. And this country’s historic respect for the messy processes of democracy and peaceful dissent has helped America enact civil rights legislation, promote human rights internationally, and end unjust wars.

How were these things accomplished? Often it was through the work of quiet heroes—ordinary Americans accomplishing extraordinary things. Citizen engagement has brought this country out of its darkest hours and helped us fulfill our promise of justice and equality to millions.

Remember, the Clean Air Act, the Clean Water Act, the Wild and Scenic Rivers Act, and Environmental Policy Act were all signed by Richard Nixon. Nixon could hardly be accused of being a commie pinko tree-hugging hippie, and it’s doubtful that he was a deep ecologist afraid to come out of the closet. He signed those bills because the public pushed him to do so.

It took organizers and committed Americans who believed in these basic ideas, and who took action to make the world a better place. Those actions were often simple and mundane activities—talking to neighbors, making phone calls, handing out flyers—but the results changed the country and set an example for the world. Can we do it again?

On Peak Oil (from Chapter One – “Getting Our Fix”)

While it’s debatable whether we’ve reached peak production, there’s no question about the problems that will ensue when oil supplies do start to decline. Gasoline prices will rise, affecting working families and truckers in particular, as well as airlines and other sectors across the economy. Tens of billions more will be spent each year on military operations to safeguard access to oil in the Middle East, Latin America, and across Asia. Wars for oil will become more frequent, and may drag on for years. Human rights, human health, protection of wilderness areas, and other environmental concerns will be subordinated to meet America’s energy demand. Wait—you think this is already happening? Imagine what will take place when less and less oil is available each year. And then consider a future in which China’s and India’s levels of oil consumption approach our own.

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On Alberta’s tar sands (also from Chapter One)

Everything about Canada’s tar sands industry, from the size of its reserves to its impacts on human health and the environment, is extreme. Those reserves are large enough to potentially meet a portion of U.S. oil demand for years to come, which is a frightening prospect if you care about clean air and water and a stable climate.

“I’ve lived in Fort Chipewayn most of my life,” recalls Allan Adam, chief of the Athabasca Chipewayn First Nation (ACFN), a native community of Alberta’s boreal forests. “When we were kids, we were living out in the bush. My father taught us how to hunt, and my mother taught us how to dry meat and fish. We used to drink right from the Athabasca River.”

But this was before the oil industry arrived to convert Canada’s vast tar sands into a source of fuel. “We can’t drink fresh water any longer. We have to bring it from the treatment plant. They say it’s good for us, but we know better. Too many people here (in the communities at Fort Chipewayn and Fort McMurray) are getting sick—and it’s because our water is being poisoned,” Adam explains.

Residents of Fort Chipewayn, a town of about twelve hundred people, have been afflicted with an unusually high rate of debilitating illnesses, including rare cancers, lupus, leukemia, lymphomas, and autoimmune diseases. The region’s former medical examiner, Dr. John O’Connor, has called for epidemiological studies to be completed before more permits to develop tar sands are approved, urging that such studies be started as quickly as possible. “For years the community has believed that there’s lots of cancer,” says Donna Cyprien, a local health director. “When they drank from the water, there was an oily scum around the cup. We now know there is something wrong.” “The river used to be blue. Now it’s brown. Nobody can fish or drink from it. The air is bad. This has all happened so fast,” says Elsie Fabian, an elder in the native community...

...For every barrel of oil refined from Alberta’s tar sands, four tons of dirt, rock, and bitumen must be dug up, producing enough waste to fill Yankee Stadium every two days. The mining, refining, and transport of tar sands oil is also extremely energy intensive, and thus a huge climate risk, producing almost three times as much greenhouse gases as conventional oil sources. In recent years, development of the tar sands is the largest contributor to the growth of climate-change pollution in Canada.

On the Myth of Clean Coal (from Chapter Two – “Smokescreen”)

Here’s the industry’s theory: As coal is burned, carbon dioxide gas would be removed, either mechanically or through chemical processes. The gas would then be compressed and pressurized until it became a liquid with a consistency similar to oil. Then it would be sent through pipelines to carefully selected geologic sites, where it could be injected into the ground. If these potent greenhouse gases were held underground permanently, they wouldn’t wreak havoc on the earth’s climate.

But when you hear coal advocates describe “clean coal” as a way to fight climate change, put your BS detector on alert. The dirty secret of “clean coal” is that, after more than twenty years of government and industry research and billions in subsidies, not a single coal plant in the world can be called clean. Not a single power plant has ever captured all of its carbon dioxide emissions, much less compressed the carbon and stuffed it underground.

Moreover, the “clean coal” techniques that industry is talking about do not address most other forms of air and water pollution. They do not give millions of Americans living near coal-fired power plants their basic human right to clean air and safe water. They do not stop mountaintop removal and other unsafe and destructive forms of coal mining, nor do they prevent the creation of millions of tons of toxic waste.

And “clean coal” certainly does not address the steady decline of well-paying union jobs, nor the coal-mining industry’s atrocious health and safety record. From 1985 to 2005, coal-mine production increased by 28 percent, while the number of coal-mining jobs decreased by 44 percent in that same period. In the coal fields I visited in West Virginia, many of the mountaintop-removal mining jobs were nonunion, paying significantly less than comparable union jobs.

On Holding Politicians Accountable (from Chapter Three - “Separate Oil and State”)

If all it took to make progress were clever speeches, dense policy proposals, press conferences, and pilot projects, we would have licked our addiction to dirty energy years ago. Both Republican and Democratic politicians routinely make happy talk about energy independence and intone gravely on the risks of global climate change, yet very few propose and fight for solutions that match the problem in scale.

If Republicans were serious about these issues, they’d be advocating to make our economy more efficient, rather than to build more coal-fired power plants. And if Democrats were truly committed to breaking our dependence on oil,

they wouldn't be coddling an automobile industry in which the top-selling vehicle, the F-series Ford truck, gets lower gas mileage than the Model T nearly a hundred years ago. The automobile fuel efficiency standards passed by Congress in 2007, hailed as a "breakthrough" by some, will improve gas mileage in America's cars, trucks, and SUVs by an average of less than one mile per gallon until 2020. At that time, we'll reach the fuel efficiency that China's drivers enjoy today. Are you inspired yet?

There's no mystery about what needs to happen to end our fossil-fuel habit, as you'll learn in the chapters that follow. We would save more oil than is rumored to be under the Arctic National Wildlife Refuge by using highly fuel-efficient replacement tires in every new American car, truck, and SUV. We'd save all the oil that America currently imports from the Persian Gulf by putting hybrid engines and other fuel-saving technologies in all our vehicles...

...But none of this will happen without political courage. To break free of oil and coal will require that politicians stand up to some of the richest corporations in the world. Large donations and the sophisticated campaign machinery behind the coal and oil lobby make that hard to do, so most politicians attempt to have it both ways—by talking a good game on clean energy, yet voting for only the mildest proposals. Don't let them fool you. Most of our top political leaders are not yet taking energy independence and climate change seriously. If they were, we wouldn't be in the mess we're in today.

Each of the chapters to come suggests specific ways to break our addiction to dirty energy. In the first part of this chapter, we'll explore the relationship between lawmakers and the corporations that earn enormous profits by cooking the planet. In the second half, you'll meet some people who are challenging those cozy ties. If we are serious about coming clean, holding our politicians accountable is a good place to start. Because to get clean energy, we'll need a clean government.

On Wall St. financing climate change (from Chapter Four - "Follow the Money")

You might not know it, but there's a good chance that you're funding climate change. Do you have a credit card or checking account with Citi, JPMorgan Chase, or Bank of America? How about an investment fund, student loan, or even a home mortgage? These giant institutions aren't just the country's three largest consumer banks. They're also the largest financiers of the dirtiest and most carbon-intensive industries in America today. And they're bankrolling those industries with your money.

Banks are one of the best recyclers in America—of money that is. Every bank in the country takes consumer dollars in the form of ATM fees, credit card interest payments, savings and checking deposits, mortgage payments, and so forth, and then reinvests that money to earn a higher rate of return. Many of these investments or loans are helpful—the economy needs credit and liquidity in order to function properly.

But banks also direct hundreds of billions of dollars each year to oil and coal operations that blast mountains apart, drill in sensitive ecosystems, and destabilize our climate. Although fossil-fuel industries attract criticism for these practices, banks often enjoy almost complete anonymity—even though they're paying for and profiting from the entire operation.

It has become almost a cliché: follow the money. It was the famous advice that "Deep Throat" FBI insider Mark Felt gave to *Washington Post* reporters Bob Woodward and Carl Bernstein during their Watergate investigation. In the film *JFK*, Donald Sutherland's mysterious character "X" advises Kevin Costner's Jim Garrison to "follow the money" to understand the motivations behind JFK's assassination. After the 9/11 attacks, one of the first things the Bush administration did was to freeze the financial assets of terrorist suspects and conduct financial investigations to determine who was behind the attacks. Whether you're a grassroots environmental group or a giant multinational oil company, financing keeps you afloat.

How RAN campaigns (also from Chapter four)

We had successfully reached out to employees before. Often a public campaign will inspire employees within a company to take action. These employees want to keep their jobs, but also wish to work for an employer that's doing right by people and the planet. When we were pressuring Home Depot to stop selling wood from endangered forests, I began to receive calls from a Home Depot worker who wanted to help. He was concerned that his two daughters wouldn't have

rainforests to visit when they got older. He gave me information about the sources of Home Depot's wood, and one day shared the access codes to the intercom at every one of Home Depot's stores. Weeks later, volunteers could be heard on the intercom at Home Depot stores across the country, saying, "Attention, Home Depot shoppers, we want to draw your attention to the doors in aisle 16 which were made from wood that has been ripped from the heart of the Amazon basin. In aisle 12 . . ."

Description of riding a high-speed train, from Chapter Five "Redesigning Mobility")

...traveling this way is a breeze, from start to finish. Unlike the airport experience, with its long lines, boarding passes, frequent delays, and baggage hassles, getting on and off Japan's trains is as smooth as can be. We arrived at Tokyo Station about eight minutes before our scheduled departure and quickly bought tickets that identified our car number and assigned seats. Clear signs (in Japanese and English) directed us to the correct track; another set of signs pointed out where to stand to board our particular car. At the precise minute it was due, the train quietly sped into the station. Also impressive was the boarding process: even though these trains can hold more than one thousand passengers each, the boarding process at any particular stop takes no more than ninety seconds, as passengers board fifteen separate cars, each with a door at the front and back.

On the train, unlike being in an automobile, there was no fighting traffic and getting tense behind the wheel. Here, we could walk around, go to the dining car, play cards, read, listen to music, or get a beer—it was good times on the rails! The biggest challenge to riding the *shinkansen* is learning how to look out the window. The ride is super smooth, and you don't realize how fast you're traveling until you look outside. If you look at the ground immediately outside the train, you can get dizzy as it zooms by at a couple hundred miles per hour. The secret is to look a ways into the distance, where your eyes can adjust and you can relax and watch the world go by.

We sped past Mt. Fuji and the bright lights of Nagoya on our way south. A little more than two hours after leaving Tokyo, we pulled into Kyoto Station, a postmodern wonder of glass and steel, complete with an eleven-story hotel, amphitheater, a public park on the roof, and more than a dozen restaurants, which, on this summer night, were packed with young people. First unveiled in 1997, the station has become a social and commercial center for the entire city.

After checking into our hotel across the street, we headed into town rested and relaxed. Our plan was to down a few beers and see if we could find that Kyoto Protocol on climate change somewhere. We'd heard they needed an American to sign it.

On biofuels and rainforests (from Chapter Seven - "Growing Gas")

"Imagine the wonder of seeing an orangutan in the wild for the first time," Dr. Birute Galdikas told me. "You're walking on the forest floor, you can hear and feel an orangutan's presence, and then you spot one moving in a shaft of sunlight in the rainforest canopy. Orangutans are very gentle and quite large—adult males weigh over three hundred pounds. When you see these animals move with such grace it takes your breath away."

I had the chance to speak with Galdikas as she traveled in the United States to raise awareness about the threat to orangutans posed by the expansion of the palm oil industry. Galdikas has been an advocate for orangutans for decades. She arrived on the remote island of Borneo at the age of twenty-five to study wild orangutans in Indonesia's tropical rainforests...

Yet the biggest problem orangutans face is outside their control. Indonesia and Malaysia produced 87 percent of the world's palm oil in 2006. To achieve this production, more than 6.5 million acres of irreplaceable tropical forests have been cleared for massive palm oil plantations. "Palm oil is the worst enemy of orangutans," declares Galdikas.

How does the fate of orangutans relate to America's fossil-fuel addiction? Just this: although it has typically been used in cooking and for soaps and cosmetics, palm oil has recently become a lucrative feedstock for the exploding biofuels market. Each year, plantation owners set huge fires to clear more forests and expand their holdings, often directly in orangutan habitat. While the forests burn, airline flights are routinely canceled or delayed, and smoke from the region can often be seen from outer space. The fires in Borneo in 1997–98 alone destroyed 5 million acres of rainforest and led to the deaths of an estimated one-third of the world's remaining orangutan population.

Without a dramatic turnaround, orangutans face a brutal fate. Millions more acres of palm plantations are planned to meet the booming biofuel demand. Sadly, orangutans are threatened not only by habitat destruction. Since they eat the young palms that produce oil, many plantation owners offer a bounty on them. “We find orangutans burned, or their heads cut off. Hunters are paid 150,000 rupiah (about 20 bucks) for the right hand of an orangutan to prove they’ve killed them,” says Dr. Willie Smits, founder and chair of the Borneo Orangutan Survival Foundation.

Biodiversity throughout the region suffers from the destruction of Indonesia’s rainforests, nearly 75 percent of which has already been laid waste—mostly within the past four decades. As the world’s demand for “green” biofuels grows, the pace of destruction is rapidly increasing. The United Nations Environment Program estimates that up to 98 percent of orangutan habitat may be lost by 2022, threatening not only these primates but also the Sumatran tiger, Asian elephant, and countless other species in this wondrous and diverse rainforest.

“It would be a much lonelier planet if orangutans disappeared,” Galdikas says. Clearly, that is a very real risk, and the world’s growing demand for biofuels will only make it worse.

More on Biofuels (from Chapter Seven “Growing Gas”)

The lure of biofuels is seductive. Rather than bankrolling terrorists and cooking the planet by burning gas in our cars, trucks, and SUVs, America can grow its way to energy independence, the thinking goes. Some crops, such as corn, sugar beets, and sugar cane, can be converted into ethanol, while the oil from palm, rapeseed (known as canola in this country), soy, and other plants can be transformed into biodiesel. Both are either added to gas or used to replace gasoline entirely. Plant-based fuels can be domestically grown, have the potential to clean up our air and water, and require no changes in driving habits.

Sounds good, doesn’t it? The reality is more complex and a lot less sunny. This country’s most popular fuel alternative is ethanol from corn, which produces less energy than is used to grow and process it. Corn is also one of the most resource-intensive and environmentally damaging industrial crops; it exacerbates soil depletion and creates “dead zones” in waterways, due to fertilizer runoff. And if dead orangutans aren’t gruesome enough, consider that biodiesel from palm oil in tropical rainforests can produce up to ten times as much greenhouse gases as conventional oil.

It gets worse. Demand for plant-based fuels is growing so fast that many industrial farmers find it more profitable to grow fuel than food crops. This is causing the prices of corn, wheat, meat, and other products to rise significantly, with devastating consequences for the world’s poorest people, who find they are competing with automobiles for food. All for dubious benefits: even if every ear of corn in the United States were devoted to ethanol, only 12 percent of the gasoline we now use would be replaced.

But don’t go crying in your cornmeal just yet. International experts distinguish “agrofuels”—the product of highly mechanized factory farms with significant social and environmental downsides—from “biofuels,” which can offer some benefits to both people and the planet. The difference is similar to that between giant industrial farms—let’s call them “food factories”—and small family farmers who can grow food in a sustainable way. Our country can ill afford any further subsidies or growth in the agrofuel economy, but biofuels may have a small yet important role to play, as long as strict environmental and humanitarian rules are established and enforced.

On getting started (from Chapter Ten “Powershift”)

Someday soon, our kids will say to us, “So let me get this straight. You guys used to blow up entire mountains and dump the rubble in rivers and streams just to get coal. Then you’d ‘wash’ it and contaminate billions of gallons of water that made people sick and gave them cancer. After that you’d ship the coal by rail for hundreds or thousands of miles, and when you finally burned it, you made enough pollution to kill twenty-four thousand people every year—and generated more toxic solid waste than all of the municipal garbage in the country. Oh, and by burning that coal, you created the biggest source of greenhouse gas emissions in the world. All to make electricity. Wow! Now tell me, why did it take so long before you realized there was a better way?”

As a parent, I'd rather not be on the receiving end of that question. By now you know that the story of how we arrived at this moment in our energy history is long and complex. But the ending hasn't been written. We can alter our course. We may have a long way to go, but we can still change the question from "why did it take so long?" to "how did you move so quickly?"

For perhaps the first time since the industrial revolution, Americans have a legitimate choice about how power is produced in this country. We can choose to mine our factories, commercial buildings, and homes for inefficiency and waste, and then make a rapid transition to clean energy with renewable power. An aggressive, national program with these goals would not only create hundreds of thousands of well-paying, "green-collar" jobs, but would also remind Americans that we can meet our toughest challenges.

When we do, life gets better. Twenty years ago, it was perfectly legal to dump highly radioactive nuclear waste directly into the ocean, but citizens rallied globally and now the practice is banned. People of all colors couldn't drink from the same water fountain or sit at the same lunch counter, until Americans of good conscience taught the rest of the country to try to live as brothers and sisters. Until recently, a planeload of passengers would be trapped for hours breathing unhealthy air anytime a fellow traveler decided to light up and smoke—but health advocates enabled us all to breathe more easily in flight.

Bullies in the Schoolyard

But it won't be easy. Too many of our corporate and political leaders are play-acting when they talk of energy independence. If we're to believe the petroleum industry, there simply aren't any practical alternatives to oil on which we can depend in the near future, never mind those pesky electric cars and plug-in hybrids. Most politicians are clever enough to introduce or at least vote for patriotic-sounding legislation that claims to help achieve American energy independence. If you look closely at the fine print, however, those bills barely make a dent in the problem; typically they're an excuse for more corporate welfare for clean coal, corn-based ethanol, or other misguided adventures. Coal companies, for their part, don't see much of a problem: coal can be "clean," climate change is a hoax, mining is safe, and pigs can fly.

What's missing from this whole debate is an honest conversation about power—but not the electric kind. There's one predominant reason we're hooked on dirty energy. It isn't because Americans are gluttonous and wasteful, although acknowledging our personal responsibility is important. It isn't because of a lack of solutions. It isn't even because of fears about high energy costs. We're addicted to oil and coal because most politicians and their power-wielding appointees lack the courage, determination, and grit to take these industries on. It's also because the business and banking communities traditionally have been in bed with the extraction industries, or lack the incentive to take risks on cleaner innovations.

We're taught on the playground in grade school to stand up for ourselves and not be pushed around by bullies. As children we learn about fairness, respect, and how to be kind to each other. But as adults, we find ourselves in a world where too many businesses are exempt from rules of fairness and decency and are able to pollute our environment and threaten our rights with impunity. Just as in the schoolyard, we have to stand our ground.

To be successful, we'll need to turn the might and power of these corporations to our own advantage. It will always be useful to confront oil and coal companies directly and expose their mistakes and untruths, but it will be even more important to dry up their government subsidies, cut off their corporate financing from Wall Street, challenge them in the courtroom, refuse their products in the marketplace, and put every ounce of consumer, political, and financial power behind clean and beneficial energy solutions.

They'll resist. Oil and coal companies will do whatever they can to distract attention from their misdeeds and deflect any criticisms. They'll distort the political and scientific debate by fomenting doubt about factual matters. And when the situation gets dire, they'll depress prices in order to defend their turf. Like all bullies, they may fight mean, but they also have their weaknesses. Rather than adjust to a changing world, many of these companies cling to outdated technologies

and assume that politicians will always maintain the status quo. They've misjudged the values of Americans who don't believe we should have to sacrifice our health, climate, or freedoms to keep the lights on and the economy healthy. We can learn to fight back, and because we have a better vision, we'll prevail.