

Charge It to OPEC

Few things could more quickly arouse the exporters to outrage than the prospect of a tariff in the oil-importing countries, for such a levy would transfer revenues from their [OPEC's] own treasuries back to the treasuries of the consumers.

—Daniel Yergin, *The Prize*, 1991

THE OPEC CARTEL IS LEGAL. Its thirteen members, major oil exporters all, agree to production limits about twice a year and post them on www.opec.org. These limits strongly affect the price of oil, and a \$10-a-barrel price increase costs Americans an extra \$70 billion a year. That's \$40 billion extra profit for foreign oil and \$30 billion for domestic oil. Forty billion dollars is a thousand times more than President George W. Bush spent on his clean-coal program in its first five years.

The Organization of Petroleum Exporting Countries, OPEC, is legal, but isn't there something we can do about it? As the 2001 recession got rolling, a reporter asked President Bush, "OPEC is about to cut production 1 million barrels a day [to raise the price]. What is that going to do to our struggling economy?" Bush replied,

It is very important for there to be *stability* in a marketplace. I read some comments from the OPEC ministers who said this was just a matter to make sure the market remains *stable* and predictable [emphasis added].

Of course, the OPEC ministers always say they are just “stabilizing” the price. But for some reason, they usually stabilize the price up, not down. And by the way, Mr. President, in the United States, it is illegal for a cartel to “stabilize” prices. Instead, we prefer what we call free competition.

Today, the U.S. government has no plan to challenge OPEC and apparently no serious desire to do so.¹ Some people say the oil-consuming nations just can’t agree on things, so we may as well let OPEC take us to the cleaners. Others, who know that cartels are not free-market institutions, think it would be wrong for us to organize a cartel—even though the OPEC cartel is eating our lunch. Surprisingly often, liberals take this point of view.

But America was not always like this. At one time, organizing a consumers’ cartel to challenge OPEC was the highest priority of the U.S. government. It was only a partial success, but we can do better.

Could a consumers’ cartel really work?

This book says it can. We can fix the climate and charge it to OPEC. To back up this claim, I must show that cutting the demand for oil will bring down the world price of oil—significantly. This is not as easy as it should be, because essentially no research is being done on designing a consumers’ cartel.

But the estimates I need to show the power of a cartel are, in fact, buried in many official reports, and at the end of this chapter I expose several of these to the light of day. They show that the action of a consumers’ cartel would have the required impact and perhaps much more.

Economists make such numerical estimates, so it would be reassuring to balance these numbers against the opinions of experts—preferably ones with deep roots in the world oil market. For such confirming testimony I turn to OPEC itself. Of course, they argue against a consumers’ cartel, but in the process they tell us just what we need to know.

Although history provides useful lessons on how to organize a consumers’ cartel, this chapter cannot answer the question of whether we can do better this time around. That answer must await Part 4 of this book. That will show that global warming has fundamentally changed the political climate. In fact, the Kyoto Protocol is a weak consumers’ cartel, and success with the climate will require a stronger one. But first, we need to learn something about how cartels work and the history of America’s effort to form one.

What’s a Consumers’ Cartel?

First, let’s review the more common type of cartel, a producers’ cartel—say, for example, OPEC. How does OPEC work? It could work in two ways—and in

1. A few legal challenges have been brought against OPEC, but all have either failed in court or failed to get off the ground. At most, OPEC might be violating a World Trade Organization (WTO) rule. If so, OPEC could just quit the WTO.

the past it has. The cartel members can agree to raise the oil price, or they can agree to limit production. As OPEC found out, the two methods have exactly the same impact on the market, and that's a key to unlocking the mysteries of cartels.

If all the OPEC countries agreed to sell oil for \$200 per barrel and no less, they would soon be selling a lot less oil. Let's say their sales fell from 30 million barrels per day to 20 million after some time. Now suppose instead that they make no price agreement among themselves but agree to cut production from 30 to 20 million barrels a day over the same time period. What will happen to the price of oil?

Economics teaches a surprising lesson about the connection between price and supply. If a \$200 price would knock sales down to 20 million barrels, then cutting back production to 20 million barrels will send the world price up to \$200. Even though OPEC makes no effort to raise the price, desperate consumers bid it up. It doesn't matter which the producers do, raise price or cut supply; it comes out the same. Price goes to \$200, and production falls to 20 million barrels. So a cartel can work either way. OPEC members now agree on production quotas simply because that agreement is easier to enforce.

Consumer cartels work the same way, but in reverse. Consuming countries could agree to import 10 million barrels a day less. That would drive the price down. Or they could agree not to pay above a certain price.

The price approach seems appealing: Let's just refuse to pay OPEC's high prices. If consuming nations really did this, it would bring the world price of oil down to the consumers' target price. But first, OPEC would stop selling oil. Only after OPEC got desperate for revenue would it accept the low price. Chances are we would get desperate for oil first, so this approach is a nonstarter. Both producers' and consumers' cartels work best by controlling quantity and letting quantity control the price.

How to Run a Consumers' Cartel

In a consumers' cartel, the consuming nations agree to reduce their consumption, and price reduction follows. Several types of agreements are possible, and the United States suggested some of them in the 1970s. First, every

Market Power: Whose Is Stronger?

A cartel needs market power, and the bigger the cartel, the more market power it has. Double the market share of a cartel and its market power quadruples. At least that's the standard economic analysis. If OPEC countries act together, they can exercise about ten times as much market power as Saudi Arabia by itself. That's why OPEC is organized—not because the countries like each other.

The United States has twice as much market share on the consumer side of the market as Saudi Arabia has as a producer. The biggest four consuming nations alone have a larger share of consumption than all of OPEC has of production. In short, the consuming nations could have just as much market power as OPEC and maybe more—if they organized.

country could cut its imports in half. But cutting imports in half is easy for a country that imports only 4 percent of its oil and extremely difficult for one that imports 100 percent. So high-import countries, particularly Germany, rejected this approach.

An alternative to a one-size-fits-all percentage quota is individual quotas. That's what OPEC does. But unlike with production, countries do not have good ways to control their consumers. So they might try but fail to meet their quotas. Or they might pretend to try but fail. The Kyoto Protocol is having just this problem. Setting an oil-consumption quantity is like setting a cap on emissions. Both limit quantities that are hard to control. Countries agree to a quantity, and they "try" to comply, but they fail. Who can say why? And no one can know if countries are trying hard enough until it's too late.

So quantity limits are the wrong way to run a consumers' cartel.

This could be confusing, because I just said that a consumers' cartel should control quantity, not the world price of oil. That still holds true. The consumers' cartel should reduce the quantity consumed, but not by setting quantity limits. And it should not try to set the world market price directly.

Instead, Henry Kissinger proposed a brilliant end run around the problem. Set a domestic "floor price." If we try to set the world price, we must struggle with OPEC and will probably lose. But OPEC cannot stop us from keeping the domestic price of oil above a floor price of our choosing. Here's how it would work: If the floor price is \$11 and the world price is \$10, then each country would put a \$1 tax, tariff, or untax (the best solution, in my view) on imported oil. The domestic price of oil would be \$11 or \$1 higher than the world price. The tariff would vary to keep the domestic price at least at the floor.

This is how to run a consumers' cartel. In fact, a floor price on oil is policy number two of the Core National Energy Plan that I propose in Chapter 7. Clearly, it's not a new idea, but it's a good one.

The floor price reduces oil use, and no one needs to agree on quantities or enforce quantities or judge if a quantity-reduction plan will work in five or ten years as promised. Countries can implement a floor price immediately, in contrast to quantity reductions. And everyone can see immediately if a country has complied. Compliance is the key to success with a consumers' cartel or a Kyoto Protocol or OPEC or whatever climate agreement comes next. If the member countries cooperate, the organization works. If they cheat, it fails. Heroic goals lead to failure. Enforcement of cooperation, gentle or otherwise, leads to success.

Not surprisingly, the easiest time to implement a floor price is when the untax rate would be zero. That's when the world price is already above the floor price—for example, \$110 when the floor price is \$100. Of course, \$100 a barrel is a good floor price only if it's high enough to cause significant import reductions. It was last time, so suppose it is this time.

So how would a cartel floor price of \$100 save us money? When the world price is higher than the floor price, OPEC is the enforcer, and its members keep the profits. But such high prices will curb imports and bring the world price down to, say, \$90, and the floor price would take over domestically. The government would charge an untax of \$10 per barrel. So that extra \$10 per barrel stays in the United States instead of going to members of OPEC. But since the domestic price remains at \$100, consumers will continue to conserve, forcing the OPEC price down further. The further OPEC's price falls, the more money we keep.

Without the floor price, OPEC's price would fall for a ways, and then imports would kick up again and keep OPEC's price from falling any more and perhaps help it rise again.

The path to energy security is to defeat the OPEC cartel with a consumers' cartel, which is well served by a domestic floor price on oil agreed to by all consuming nations. In Chapter 7, I recommend this for national policy, but in Part 4, I recommend a more flexible international carbon-tax policy. But most countries would likely implement a large portion of their carbon tax as a floor price on oil, just as Kissinger's team recommended in 1974. With that in mind, let's look back at the history of oil-consuming nations struggling to defend themselves against OPEC.

Standing Up to OPEC

The United States began standing up to OPEC less than three months after the start of the 1973 oil embargo and with startling speed led the oil-consuming nations in the formation of the International Energy Agency, the IEA.

IEA: The Consumers' Countercartel. On January 10, 1974, President Richard Nixon invited Japan and the nations of Western Europe to an organizing conference. At the February conference, Secretary of State Henry Kissinger proposed that the consumer nations make a "study of joint consumer policies in an effort to hold down the use of energy." By March, the head of OPEC "accused the major oil-consuming nations of 'conspiring' to force down the market price of oil" according to the *New York Times*. By September, the *Times* reported that participants had drafted an "extraordinarily detailed" 7,000-word proposal. The article continues:

The immediate objective is to exert downward pressure on oil prices. ... Equal sharing of oil company data was a prerequisite for shaping the consumers' counter-cartel, American officials state.

"American officials" were already calling the proposed agency a "consumers' countercartel." It was a countercartel in that it was intended to return prices to the competitive level. But any organization that intentionally changes

Be Fair to OPEC?

Hurting suppliers is not the point. OPEC will still have most of the world's oil. Its members will still make hundreds of billions of dollars in windfall profits simply because they have the good fortune to sit on virtually 100 percent of the remaining cheap oil. That should be enough. Those countries don't need cartel prices too.

Exxon and the other non-OPEC suppliers will make money just as other businesses do. They have no right to expect a free ride on OPEC's monopoly prices. But unless someone catches them price gouging, we should leave them alone. They will have good years and bad years.

Consumers should be free to organize to break free of their fossil-fuel addiction if they so choose. That this will deflate monopoly prices is no reason to bail out oil companies.

Also remember that the country hurt most by OPEC was India. Why should poor third world countries suffer so OPEC's sheikhs can build palaces? A competitive oil price is more than fair to OPEC.

the market price is a cartel, so a countercartel is itself a cartel—a consumers' cartel.

In October, the *New York Times* reported: "The U.S. proposed that major industrial nations reduce oil imports by enforcing strict energy conservation measures. Kissinger and [Secretary of the Treasury William E.] Simon urged that each nation cut back by the same percentage. The British and German officials disagreed." The first cartel strategy that Kissinger proposed was for all member countries to cut their oil imports by the same percentage. But as I explained previously, this is more difficult for nations that import a higher percentage of their oil. So participants rejected this first cartel strategy. But in November, the *Times* reported:

A "counter cartel" of the major oil-consuming countries ... is now a virtual certainty.

Countries that import 80 percent of the world's oil are uniting. ... The oil-consuming nations now intend to undertake a long-term program of energy conservation and accelerated development of alternative energy supplies ... to break the extortionate price level. ... But alternative supplies will take years to develop. The immediate challenge is to limit consumption.

At this time, the oil-consuming nations understood correctly that conservation was their main weapon for the next several years and that alternative energy was their hope for the future. They were determined to fight fire with fire and "break the extortionate price level"—in other words, break the OPEC cartel. That month, the sixteen-nation IEA was established, and it continues to this day, now with twenty-seven member nations.

By the end of November 1974, the United States had developed a new approach to coordinating the cartel. Writing in the *Times* under the headline "U.S. Oil Plan: High Price Is Key," columnist Leonard Silk called it "startling news ... that the United States is now founding its strategy on the \$11 price." At the time, the world price of oil was about \$10.

The Federal Energy Administration had concluded that by 1985, an \$11 price would cut U.S. consumption by about 4 million barrels a day but that a \$7 price would fail miserably. So the plan was to have all the IEA countries adopt a floor price of \$11 per barrel. Each country would impose something like an oil tariff that would keep its domestic price at the floor level even when the IEA, acting

as a cartel, forced down the world oil price. This would keep OPEC in check even after the consumers' cartel succeeded.

Unfortunately, when Kissinger proposed that “all the major consuming nations join the U.S. in establishing a ‘common floor’ for the prices,” as *Time* magazine reported, many were suspicious “that the floor plan is mainly aimed at getting the rest of the industrial world to safeguard a big U.S. investment in costlier sources of energy.” In fact, the United States had largely shifted its focus from conservation to synfuels.

Only in the following year, 1976, did the members of the IEA agree on a floor price, and then they agreed on \$7 a barrel, the exact price that the Federal Energy Administration had analyzed in late 1974 and concluded would not work. It didn't work. The \$7 floor price had no effect; OPEC kept the world price above the domestic floor price forever after.

OPEC Strikes Again

Three years later, in early 1979, when oil prices again started a rapid ascent, Americans were stunned and suspicious that they were being “ripped off” (see “Accidentally Helping OPEC”).

President Jimmy Carter set in motion the full decontrol of oil prices and called for a windfall-profits tax to recycle some of the oil companies' gains from decontrol. Before the world economic summit in June, administration officials disclosed that Carter would take a tough line in favor of cooperation among oil-consuming countries. In fact, according to the *New York Times*, “Administration officials” suggested a “buyers' cartel to negotiate directly with OPEC.”

About this time, Germany suggested that the United States lead a consumer effort, and the Japanese did a complete about-face. Since the embargo of 1973, their policy had been to conciliate OPEC. Kiichi Miyazawa, an adviser to the Japanese prime minister at that time (although he later became prime minister himself), made these surprising comments just a week before the Tokyo summit in 1979:

Our immediate task is to break that cartel [OPEC]. ... We should not overlook the fact that we face a suppliers' cartel. The only effective way to deal with it is to form a consumers' cartel—there is no other way. ... [Saudi oil minister Ahmed Zaki] Yamani is right. The West should economize on oil.

Time magazine, not quite keeping up with the changing mood, reported that “proposals for an outright buyers' cartel to control consumption, much as OPEC controls production, are thought to be too ambitious.” Perhaps that would have been so, but on the first day of the summit OPEC raised the base price of its oil by 24 percent. After the summit, the *New York Times* reported:

In a way, although nobody wants to pronounce the dread words,
... the Tokyo agreement amounts to a consumers' cartel.

Consumers' cartel—the dread words. OPEC had the industrial world so frightened it was afraid even to talk about forming a real organization. But the industrial nations did talk tough for a few days and signed what amounts to a cartel agreement. The main purpose of the Tokyo agreement, according to the first U.S. secretary of energy, James R. Schlesinger, was to “inhibit the capacity of OPEC to raise prices” by holding down the growth of demand. That is precisely the definition of a consumers' cartel. All seven nations pledged to hold imports through 1985 to roughly their levels in 1979.

In the end, the United States and probably all the other summit nations kept their pledges, but not because of their determination. OPEC acted as the enforcer for the agreement among the consuming nations. OPEC's high prices assured compliance—and more. Never was there a better-paid enforcer.

Six months after the summit, the Organisation for Economic Co-operation and Development (OECD), representing the twenty-four leading non-Communist industrialized countries, found them plagued with double-digit inflation and economic stagnation. As a remedy, according to the *New York Times*, the OECD's economists proposed an “oil consumers' cartel.” That was near the end of 1979, and that is the last time I can find any mention of government-level proposals for a consumers' cartel.

The 1986 oil price crash was disastrous for the U.S. oil industry, but the rest of the country was ecstatic. The crash caused a national debate over whether the United States should, on its own, impose a tariff on imported oil to prevent OPEC's eventual return to power. Conservatives and liberals alike supported such a tariff, and oil interests opposed it. The oil interests, with friends like George Bush senior, won the debate. In the final days of the oil price collapse, the *Wall Street Journal* reported:

Vice President George Bush Tuesday sparked a sharp jump in world oil prices. Mr. Bush, who departs today on a trip to Saudi Arabia and three other Middle Eastern countries, said at a news conference that he would make a plea to Saudi officials for *stability* in world oil markets [emphasis added].

There's George Bush senior using that same code word—*stability*—that his son found OPEC ministers using fifteen years later. No wonder George junior believed the OPEC ministers, as I quote him explaining in the second paragraph of this chapter.

Trying to stabilize an oil price that was in free fall after twelve painful years of high oil prices got Bush senior in a peck of trouble, even with his own administration. An editorial in the *Atlanta Journal-Constitution* asked, “Will George Bush be boiled in oil?”

But Bush senior was not trying to help the Saudis. As the *Wall Street Journal* explained: “Mr. Bush, a former oil man whose political base is in Texas,” said, “Hey, we must have a strong, viable domestic [oil] industry.” Nothing is better for domestic oil producers than having OPEC raise the world price of oil.*

The debate over standing up to OPEC continued through 1986 and 1987 and up until Tuesday, November 3, 1988, when George H. W. Bush was elected president. The oil interests had triumphed.

OPEC’s Greatest Fear

If you want to know what strategy would work against OPEC, listen to OPEC. OPEC pays close attention to what would damage its profits. Of course, when the organization finds a threat, it doesn’t tell us directly what it is. Instead, OPEC looks for some reason to criticize the threatening strategy.

As Daniel Yergin explains in this chapter’s opening quote, a tariff on oil imports arouses the exporters to outrage because “such a levy would transfer revenues from their own treasuries back to the treasuries of the consumers.”

A tax—actually, an untax—on imported oil is exactly what I recommend, because, as Yergin said in 1991, it would transfer revenues from OPEC’s treasuries to the treasuries of the consumers. (Or, in the case of an untax, it would transfer money to the wallets of the consumers.) OPEC’s displeasure with this idea is a reliable sign that it’s a good idea. Selling oil is a zero-sum game: What they lose, we gain.

In recent years, a new reason for an oil tax has worried OPEC—global warming. In 2007, OPEC stated that it was “concerned that many of the so-called ‘green’ taxes that are currently levied on oil do not specifically help the environment. Instead, they simply go into government budgets to be spent on other things.”

Is this plausible? Is OPEC concerned that green taxes aren’t working well enough? In fact, OPEC knows that green taxes help the environment by reducing the use of oil. What concerns OPEC is that the taxes will work. As to the revenues simply going “into government budgets,” well, that would be our government’s budgets instead of their governments’ budgets. Perhaps that explains their “concern.”

But if OPEC doesn’t like green taxes, why did it sign the Kyoto Protocol? Well, besides the fact that the treaty requires its members to do absolutely nothing, they want to remain part of the international climate-change process. In another 2007 statement, OPEC stated that

[OPEC] participates in many international meetings in order to remind governments and others who are debating environmental

Accidentally Helping OPEC

As Kissinger and President Gerald Ford struggled to put in place an aggressive policy to fight the OPEC cartel, they ran up against an American public that refused to believe there was an energy crisis. Congress didn't help. Democratic Senator Scoop Jackson, in a public hearing, declared, "The American people want to know if this so-called energy crisis is only a pretext." And the Democratic Congress fought for a low floor price and then for loopholes in the floor. Ford fought back by imposing a \$1 tariff on imported oil. Four months later, he raised it to \$2, which added 20 percent to the \$10 cost of foreign oil.

Ford had planned a \$3 tariff, but after months of wrangling he threw in the towel. Instead, the Democratic Congress forced an immediate 12 percent rollback in the price of "old" domestic oil, which was still under Nixon's price controls. Congress shifted energy policy into reverse.

European nations proved no stronger on cooperation, though individually they did more than the United States. In 1974, taxes accounted for about 71 percent of the price of gasoline in Paris and about 25 percent in Chicago. To this day, OPEC publishes an annual report on what a terrible idea the European gasoline taxes are—and OPEC holds up the United States as an example of how to be nice to OPEC and set low gasoline taxes.

In early 1979, *New York Times* columnist Leonard Silk wrote that many Americans were "skeptical that a shortage even exists" and suspicious that they were being "ripped off." *Time* magazine reported that 69 percent of the public still believed there was no energy crisis, but that prices were rising "merely because the oil companies want to make more money." Apparently the public believed that up until 1974, the oil companies didn't want to make more money.

policies that they must consider the needs of developing countries, especially those that rely on their income from oil.

"Those that rely on their income from oil"—would they, by any chance, be the OPEC countries? So OPEC participates in climate-change conferences to protect its "income from oil." How thoughtful. But although OPEC does remind us of the needs of developing countries, it might be a bit more accurate to characterize what it does as trying to stir up trouble. "It is unfair and unrealistic," according to OPEC, "to ask for more stringent commitments for developing countries over and above those already embraced by them in the Kyoto Protocol."

"More stringent commitments"—I suppose that would mean "any commitments at all," since developing countries currently have no commitments under the Kyoto Protocol. I can think of one excellent commitment they should make: Developing countries should commit to stopping their subsidies for fossil fuels—in other words, to stop wasting money and subsidizing global warming

at the same time. Of course, the countries that top the list of oil subsidizers are the OPEC countries. But this is getting off the point.

My point is that OPEC members fear effective climate-change policy, and most of all they fear “green taxes” or green untaxes on oil. OPEC members fear these taxes because they know the taxes work—they reduce the use of oil. Even more, OPEC members fear such taxes because when oil use falls, the price of oil falls. And that’s what really hurts OPEC’s members. “We also need to be sure,” according to OPEC, “that there will be enough demand for that oil and that we will get a reasonable price.”

Now, what price would OPEC consider “reasonable”? Might that be the highest possible sustainable price? That’s certainly what I would mean, were I in OPEC’s shoes. OPEC is always talking about “security of demand.” But its members are not concerned with a sudden demand disruption due to a terrorist attack on the United States. They are concerned that we might reduce our oil addiction over the long run. Pushers are always concerned about how to keep their users hooked. According to OPEC,

Oil demand is also greatly affected by consuming countries’ policies. Taxation of energy products is often seen not only as a means of raising revenue, but also as a means of controlling demand in addressing environment and energy security issues.

So there you have it straight from the horse’s mouth. “Oil demand is also greatly affected by consuming countries’ policies.” And what policy tops the list? “Taxation of energy products.” Might these “energy products” be oil? Can’t OPEC ever say what it means? Well, if I were them, I wouldn’t either.

How Strong Would a Consumers’ Cartel Be?

OPEC members’ big worry is a tax on oil, but just how worried should they be? In part, that depends on how hard it is for consumers to push down oil prices. To do this, consumers must reduce oil demand worldwide, but how much good will that do? Of course, that depends on how much consumers reduce their use of oil. What we would like to know is the relationship between oil-use reduction and oil price reduction.

For example, would a 10 percent reduction in global oil use cause a 10 percent reduction in the price of oil, or would it cause a larger or smaller change? I will call the ratio of percent oil use reduction to percent oil price reduction the oil-use-change-to-oil-price-change ratio or, for short, the oil-change ratio (which I hope is more intuitive than the economists’ term, the “inverse price elasticity of demand”).

So what is the world’s oil-change ratio? As it turns out, I can’t pin it down, but it looks like a ratio of 1-to-1.5 would be a very safe bet. That means

that each 1 percent reduction in oil use would cause a 1.5 percent reduction in the price of oil. So a 10 percent reduction in oil use would cause a 15 percent reduction in the price of oil. This ratio tells us how much a cartel must shrink demand to have a certain impact on the world price of oil.

Unfortunately, I cannot find a single estimate of this important ratio in the economic literature. Estimates must exist, because economic models use the ratio. I think the problem is that the estimates are basically professional judgments, and so far no economist has been willing to spotlight such an uncertain but important judgment.

This leaves only two ways to discover the value of the oil-change ratio. First, I can look to history and try to make an estimate. Second, I can look at the results of economic models to see what ratio they must be using. I will do a little of both and then make a cautious choice.

The Power of the Oil-Change Ratio

Suppose that when the world reduces demand for oil by 1 percent, the world price of oil falls 1.5 percent. How much money does that save consumers?

There's no trick to the problem; the total savings is 2.5 percent (or extremely close to that). For small changes, the two effects just add together.

This means that saving a barrel of oil saves consumers worldwide an additional 1.5 times as much money as the barrel cost, because the reduced demand lowers the world price.

That's why a consumers' cartel is so important. If I conserve 1 percent, I save 1 percent. But if all consumers conserve 1 percent, we all save 2.5 percent.



Notice that this result assumes oil conservation is driven by a global climate organization using global carbon pricing as described in Part 4. That is why I can ignore the global rebound effect, which interferes with conservation and world-oil-price reductions.

The Great Energy Experiment. Before looking at the economic models, recall that OPEC conducted what I call, in Chapter 1, the great energy experiment. This “experiment” tested the value of the oil-change ratio by raising the price of oil sharply and then waiting for conservation to reduce demand. In Chapter 8, we saw that conservation caused a collapse in the world price of oil between 1981 and 1986. At that time every 1 percent drop in net demand caused far more than a 1 percent reduction in the world oil price.

The Economic Models. Three major studies, one by the Department of Energy, of the impact of the Kyoto Protocol apparently used oil-change ratios of 1-to-4 and 1-to-5 (see endnotes).

A 2007 MIT report on congressional cap-and-trade bills does not report enough information to determine a ratio. However, it does find that a strong international climate-change program could reduce oil prices from an estimated \$90 in 2050 to an astoundingly low \$48 a barrel.*

In the end, the oil-change ratio I have chosen to use is from the IEA. Organized by the United States in 1974 to confront OPEC, it is now the world's leading energy research institute and publishes the *World Energy Outlook* each year. This report includes both a “reference scenario”—a picture of what would happen with no new government energy policies—and an “alternative policy scenario”

that assumes reduced fossil energy use. I have chosen to use the value for the oil-change ratio that the IEA used in its 2005 alternative policy scenario. This is the most conservative value I've found, and it is the most clearly explained. Here's the IEA's prediction of the change in demand for oil in the alternative policy scenario:

Demand for oil in the Alternative Policy Scenario rises to just under 5000 million tons in 2030, 580 million tons, or 10%, lower than in the Reference Scenario.

This 10 percent decrease in the use of oil relative to the IEA's reference scenario would reduce the price of oil, and the IEA tells us:

The oil price averages \$33 per barrel in the Alternative Policy Scenario. This is \$6, or 15%, lower than in the Reference Scenario, because lower demand depresses prices.

The IEA projects that a 10 percent reduction in global oil use will lead to a 15 percent reduction in the price of oil. I use this ratio throughout the book.

**Each 1 percent decrease in the world's demand for oil causes
a 1.5 percent decrease in the word oil price.**

But one more estimate of the oil-change ratio deserves attention. It is more recent and may be the most relevant to conditions we are likely to face. The IEA's *World Energy Outlook 2007* considers a "high-growth" scenario in which demand for energy is high. Higher oil demand pushes the price of oil up and "international oil prices reach \$87 per barrel in year-2006 dollars in 2030, 40% higher than in the Reference Scenario."

This is astounding, because in the high-demand scenario, global demand for oil is only 3 percent higher than in the reference scenario. So the IEA is using a 1-to-12 oil-change ratio. A 3 percent increase in demand (actually a hair more) causes a 40 percent increase in the price of oil. If the world finds itself in a high-oil-demand situation, then a demand-reduction policy—a consumers' cartel—would be extremely valuable. Even if it reduced demand only 3 percent, this would cancel out the 40 percent oil price increase.

In other words, if the oil market turns out to be tight—as it has been for a few years and promises to be in the future—a consumers' cartel could have a far more beneficial impact than predicted by a 1-to-1.5 oil-change ratio. In spite of this, I will stick with the most cautious estimate, the IEA's oil-change ratio of 1-to-1.5 from its 2005 report.

This is a long-run effect, which applies to changes in demand that last for many years. The short-run effect is stronger. As we have seen recently, small changes in supply and demand have sent the price of oil skittering up and down. Between 1998 and the start of 2008, the world's use of oil increased only 13

Update on Charging OPEC

After I wrote this chapter, picking a 1-to-1.5 oil-change ratio, the DOE published a new study in May 2008, “Analysis of Crude Oil Production in the Arctic National Wildlife Refuge.”

Increased production has the same impact on world oil prices as reduced demand, so this report implicitly gives the official U.S. government estimate of the oil-change ratio.

On page 11, we find that the DOE estimates that a 1.2 percent increase in world oil supply causes a 1.94 percent reduction in the price of oil. That’s an oil-change ratio of 1.62. Undoubtedly, this is a cautious estimate.

percent, but the price of oil increased roughly 700 percent. That’s a short-run oil-change ratio of about 1-to-50.



Since Vice President George H. W. Bush flew to Saudi Arabia in 1986 to try to stanch the oil price collapse, the U.S. government has been trying to curry favor with OPEC, a policy that has never paid off except for the oil companies. Instead, as Japan’s Prime Minister Kiichi Miyazawa said long ago, “A consumers’ cartel—there is no other way.”

During the early years of the first two OPEC crises, the United States organized two consumers’ cartels, the IEA and the Tokyo agreement. These fizzled for lack of commitment, but they taught valuable lessons. The key lesson is that a consumers’ cartel cannot work by negotiating prices with

OPEC. Actions speak louder than words, and we must force a change in the market price by reducing demand. This is best done by taxing oil and, I hope, refunding all the tax revenues to consumers.

OPEC’s fear of green taxes placed on oil provides a strong indication that a consumers’ cartel would work. This is backed up by every economic model I have found that takes account of the impact of demand on the world oil price and is also backed up by the historical record of the first two OPEC crises. The weakest predicted effect is a 1.5 percent drop in price for every 1 percent drop in demand.

An effect of this size means that every dollar of oil not purchased saves that dollar and saves consumers worldwide another \$1.50 in reduced oil prices. Even by itself, the United States could shift tens of billions of dollars of climate-change costs to OPEC and the other oil suppliers. But with a consumers’ cartel, the world really could “charge it to OPEC”—and Exxon and BP and all the rest.

P.S. An example calculation of how the U.S. part of a global climate policy could be charged to OPEC is provided at the end of Part 4.