Cap-and-Trade Secrets

Will Cap and Trade "Practically Guarantee Disastrous Climate Change"?

—James E. Hansen, Al Gore's Climate Science Adviser

An eBook by **Dr. Steven E. Stoft** Energy Economist

February 23, 2008 (<u>get the latest</u>) Version 2.2 Kyoto set up a test of cap and trade, so the world could learn. We learned caps are unpopular and often exceeded. But can we make them work?

Key outcomes remain unknown in America, and many are not yet understood in Europe.

We must decide if cap and trade is right before Kyoto's second round in December. America is now headed for ...

What's Going On?

EDF's most trusted scientist says EDF is disastrously wrong.

... a carbon cap. But what will happen if we get one?

Environmental Defense Fund vs. James Hansen

EDF has championed cap-and-trade for 20 years. And this year it's hoping for the biggest cap-and-trade bill ever. It says that's the only way to save the earth from passing a climate tipping point.

James E. Hansen, Al Gore's science advisor and the strongest voice for climate stability, ever since his speech to Congress in 1988, says EDF's approach

will practically guarantee disastrous climate change.

EDF says: Lock in the cap for 40 years and we'll be safe. End of story. Hansen says cap and trade leads to millionaire traders, to increased taxes with no apparent benefit, and, finally, to a public backlash.

But the most surprising clash between EDF and Hansen is on science. Hansen is the leading scientist studying climate tipping points. EDF says science dictates the tipping-point limit—and the cap. Meanwhile Hansen rails against caps and favors a tax.

The demand for caps blew apart the Kyoto negotiations when most of the world's countries rejected caps. Many say this will happen again.

But Obama and Congress are set on a cap. Will it be weak and full of giveaways, as Hansen predicts? Will it discourage the Chinese and Indians? Or is a cap the best path forward?

Who's Right?

For two years, I've researched both EDF's cap-andtrade approach and Hansen's carbon-tax approach. Both work in theory, but even a carbon tax has its mysteries. And few indeed have guessed the seven secrets hidden beneath the surface of cap and trade. Understand these, and you'll know who's right.

Who's Capped and What's Traded?

Even if you understand caps, read "No One Is Capped."

The Cap

"Cap and trade" is a system for limiting pollution carbon dioxide in this case. It's often just called "carbon" for short. In case you're new to this, here's a quick explanation of how the system works.

The cap has two parts. First, a rule determines who must have a permit for carbon. Second, the government issues only a limited number of permits. The limited number is the cap.

A simple rule, though not the best, would say that coal plants and refineries must have permits for the carbon they emit or sell (as part of oil).

The Trade

When the government issues permits, it can sell them in an auction or give them away to, say, coal-fired power plants. With either giveaways or an auction, the permits end up selling for the same price in the private permit market. That price is determined by the shortage of permits caused by the cap.

If a coal mine has more permits than it needs, it can sell the extra ones to an oil refinery. That's the "trade" part of cap and trade.

No One Is Capped

No one feels the cap directly. A coal mine might need 60 million permits, but 100 times that many will be available. So individual refineries and coal mines are **not** capped. There's just one cap—on the whole country. The coal mine, and everyone else, feels only the cost of permits. Caps have their effect only through permit prices—the price of carbon.

Before I Give Away Any Secrets ...

Al Gore prefers a refunded carbon tax.

Some who favor a cap are saying that anyone who doesn't agree that a cap is better than a carbon tax is secretly against fixing the climate. See what you think.

The most straightforward policy would be an across-theboard carbon tax. • [A pollution tax] commands the assent of virtually every card-carrying economist. —Paul Krugman

"Cap and trade" generates special interests, lobbyists, and trading schemes, yielding nonproductive millionaires, all at public expense. The public is fed up with such business.

—James E. Hansen

I certainly believe that the simplest and easiest way to solve this problem would be a CO_2 tax that is 100 percent refundable.

—Al Gore

NASA climate scientist, James Hansen, who we just met, favors a carbon tax with a *100 percent refund* to individuals on an equal-per-person basis. I call this an "**untax**" in my book <u>Carbonomics</u>, and explain why it works just as well as a carbon tax.

Al Gore backs both cap and trade and a carbon tax, considering the tax to be better but the cap to be more likely. Most other environmental groups, especially the strongest politically, favor cap and trade and oppose a carbon tax. Although lately some smaller groups have switched to favoring a tax.

Both sides believe the other path cannot succeed. If either side is right, we need to know.

Now, the Seven Secrets.

1. Caps Take Control

That's what they're meant to do.

How the Cap Controls Total Emissions

If we cap carbon emissions, they can't go higher. And they won't go lower, because that would mean the cap isn't working.

If emissions start to go too high, that causes a shortage of permits and their price will rise. This causes people to use less carbon, whether they care about the climate or just want to save money.

But what if you want to push emissions below the cap by buying a plug-in hybrid. Or what if your state saves carbon by insulating houses?

These actions still save carbon. But if emissions start to go below the cap, then permit prices fall, and others use enough more carbon to raise emissions back to the cap. Cap and trade controls emissions.

German Wind Turbines Do No Good

"Dear Daniel, sorry, but the EEG [Germany's renewable energy law] won't do anything for the climate anyway." That was once a secret e-mail written by one energy expert in Germany's Green Party to another.*

Germany's wind and biomass generators saved 120 million tons of carbon in 2008—in Germany. But that meant German industry had extra permits, so it sold them to coal companies in Poland and Slovakia, so they could emit 120 million tons more carbon.

So, in spite of all the wind turbines, Europe will still hit its cap. The turbines save no carbon.

Spiegel Online notes, "Experts have known about this situation for some time, but it still isn't widely known to the public."* It's still a secret.

* www.spiegel.de/international/business/0,1518,606763,00.html

2. Caps Kill Initiative

You buy a hybrid so the other guy can buy an SUV.

Discouraging

Suppose we did have a national carbon cap.

What happens if you decide to help out and buy the best hybrid car on the market?

No carbon is saved. The permits not used because you use less carbon just make it possible for someone else to own an SUV.

The SUV owners will all wave to you as they drive by. They're saying, "Thanks for making permits cheaper so I could afford the gas for my SUV."

The rude ones may just laugh.

This is discouraging. It's also discouraging that appliance standards will no longer make a difference. Corporate Average Fuel Economy (CAFE) won't save carbon. Resource portfolio standards will quit working. And on and on. Under a cap, nothing you can do reduces carbon emissions. The cap is in control. That will eventually kill all other carbon-saving initiatives.

Is This Logic Perverse?

Some say this logic is "perverse." Some see it as attacking green programs.

It's not perverse to understand. And understanding will help us truly reduce emissions and not just appear to help the climate.

The permit requirement applies to coal plants and refineries. And that's the problem. If we use less carbon, they will have extra permits and will sell them in the permit market. The market will lower the price until someone decides to buy the permits and emit more carbon. That's what's perverse—not our understanding.

And remember: A carbon tax has no such problem.

3. Kyoto-Style Caps Will Fail Again

Little has changed since Kyoto.

Why Kyoto Failed

At the first Kyoto conference, we proposed a cap and developing countries rejected caps as unfair. No alternative commitment was offered, so they made no commitment. The U.S. Senate then rejected, by a vote of 95 to zero, the idea of a treaty in which China and India made no commitment.

Although many now say that if the United States adopts caps, China and India will follow. That contradicts history. It also contradicts China and India. Both say they won't follow. The liberal Nobel economist Joseph Stiglitz says their rejection of caps is completely reasonable. Any cap would either be unfair to them, or it would do nothing for decades.

Ignoring China's offer to agree to some other form of commitment, but not a cap, is disrespectful and harmful to international cooperation.

By adopting a cap, the United States would, in effect, be saying: "Follow us. You're wrong and should accept a cap." That approach will fail.

Just stop to think. India emits 20 times less carbon per person than the United States. If India's cap is set five times lower than ours, India will say: "We've done less damage. Why should we have to be five times better than you in the future?" But even such an unfairly low cap would not slow India's emissions one bit.

However, India could agree to the same carbon tax as the United States, and the cap would start to work instantly. That would not stop India from catching up with us economically, which they consider most important.

Who's Behind The Alternative?

William Nordhaus, the top energy economist for the last 30 years, agrees with Stiglitz. So does Gregory Mankiw, a leading conservative economist. They, and many others, have proposed global carbon pricing as an alternative to caps, for the reasons just explained.

And Hansen says, "A continuation of the Kyoto Protocol approach, will practically guarantee disastrous climate change."

4. Cap and Trade = Cap and Pay

Should the U.S. and E.U. pay the world to curb carbon?

Backwards Negotiating

The Kyoto negotiation said in effect: "OK, if you developing countries won't be capped, then we will pay you to reduce emissions." They are loving it. And, European businessmen love it. Chinese carbon offsets are cheaper than European carbon permits.

If the United States adopts a cap, China, India and Brazil will just see more U.S. businessmen wanting to buy their carbon offsets. One more reason not to agree to a cap—to sell more offsets!

The Kyoto system is paying the developing countries to vote against a cap.

EDF argues in effect: "If we're nice and cap ourselves, all the other countries will be nice, too." Well, we should be nice, but also smart.

It Just Costs too Much

China is already emitting as much as we are and is growing faster. If you look at the numbers, Europe is paying China far more to curb emissions than it costs China to curb them. That's why China loves selling offsets.

Put China's fast growth together with costly offsets, and you'll see that the United States would need to pay China and India hundreds of billions of dollars a year, since they won't have caps.

To control just China's emissions, we would need to set our cap to zero and then meet our cap by buying only Chinese offsets. That would hold down China's emissions, but not our own.

Because developing countries reject caps, cap and trade turns into cap and pay.

5. They'll Charge You for What's Free

Companies always pass on the "cost" of free permits.

Profits form Free Permits in Europe

Under Europe's cap, coal-fired power plants must have carbon permits, and Europe gives them nearly all the permits they need—for free. So you might think they wouldn't charge us for those permits.

Here's what really happens.

If a unit of electricity normally costs \$40 to make, but now the coal plant has to buy a \$30 permit to make it, the plant will charge you \$70.

With free permits, they think like this: "If I make a unit of electricity, then I must use one of my free permits which I was going to sell for \$30. So making electricity still costs me an extra \$30 because of notselling a free permit."

No matter how many free permits we give them, coal plants still charge us \$70 per unit of electricity. All economists and top-level environmentalists know this. And now Europeans know it, because the extra billions in profits under the E.U.'s cap have made headlines.

Free Permits in the U.S.

Back in the 1980s, when coal plant owners were blocking all attempts to curb their sulfur emissions, the environmentalists (EDF, NRDC, etc.) suggested cap and trade and giving coal plants all the permits for free.

Back then, coal plants were regulated, so they could not profit from the free permits. As EDF says, it was "wildly successful."

But now, with many plants deregulated, those plants pass on the "cost" of their free permits. And they profit from this cap and trade.

In January 2009, EDF and NRDC proposed a new cap-and-trade bill for carbon. They worked it out with industry in back rooms over the last two years. Guess what? More free permits.

No one notices a few \$100 million of cost passed through from free sulfur permits. But free carbon permits could be worth \$100 billion a year. Pass on those "costs," and, sooner or later, that will make headlines.

6. A Cap is a Tax

Yes, it's just a tax controlled by the market.

Why a Cap Is a Tax

If the carbon permits are auctioned, and the price is, say, \$30 a ton, that's the same to industry as if they have to pay a tax of \$30 a ton.

So cap-and-trade with auctioned \$30 permits is just the same as a carbon tax charging \$30 a ton.

Before reading Secret #5, you might have thought that giving out permits for free made all the difference. But now we see that free permits just make companies richer, and they change nothing else. Industry acts just as if it had paid for all it permits.

So, Cap and trade = A variable carbon tax.

But, a cap is a tax with two important differences:

- 1. Giveaways are more obvious with a tax.
- 2. The tax rate of a cap fluctuates erratically to enforce the government's cap.

Why a Cap Is Different

Whether a company gets permits for free or buys them, it acts like it bought them at the market price of permits. And buying permits is no different than paying a tax.

But because the permit price varies, it's like paying a tax that varies. And it varies with a purpose to make sure our emissions meet the cap. If emissions start to go higher, the tax goes up, and if emissions start to go lower than the cap, the tax goes down.

That's why Secret #1 told us: Caps take control. And it's why Secret #2 told us: Caps kill initiative. The fluctuating tax is what does it. If you cut back your emissions, that reduces the tax rate just enough to raise other people's emissions and undo what you did.

7. A Cap is Regressive

The cap tax rate is higher for the poor.

Why It's Regressive

A cap-and-trade tax gets passed on, from industry to business to consumers, exactly like a carbon tax. It's really just a combined gas tax, electricity tax, heatingoil tax, and natural gas tax.

But all of these, just like a gas tax, hit the poor hardest as a percentage of their income. It's like having an income tax where the rich pay 5% and the poor pay 10%. No one thinks that's fair.

Collect a Regressive Tax to Pay Polluters?

When coal plants get free permits and make billions extra in profit, where do those billions come from? Not from the government—all it does is print the permits.

All the billions come from the regressive cap-andtrade taxes passed through to consumers but collected at the highest tax rate from the poor.

What to Do?

The Prognosis

We are headed for a weak cap-and-trade policy half finished by Congress when the Kyoto process resumes in Copenhagen this December. There, the U.S. will back caps for all. And developing countries will reject them just as they have said they will.

The Untax Alternative

James Hansen proposes a carbon tax with a 100% dividend—an untax. Stiglitz proposes a uniform carbon tax rate for the world. What are they thinking?

- ↔ Don't alienate China and India by trying to cap them far below us.
- ↔ Get them to commit, so Congress will go along.
- ↔ America will figure out caps are taxes.
- ↔ To work, carbon prices must eventually collect \$300 billion a year—and maybe more.
- ↔ A \$300B regressive tax controlled by lobbyists and speculators will cause a backlash.
- ↔ Untax! Give it all back equally per person.
- ↔ Only an untax can be made strong enough.

Congratulations!

You can stop here and rest assured you are a cap-andtrade expert. Plus you know that we're not trapped. There is a way out of this fix. Al Gore knows what it is, and James Hansen is hard at work on it. *Carbonomics* spells it out in detail.

For my money, secrets 1–7 say enough. But as an economist, I feel obliged to reveal the secrets of captax speculators and why caps don't provide certainty. So, if you're curious, proceed to Part 2.

James Hansen's Bottom Line

If the United States accedes to the ineffectual 'goals' and 'caps' approach, a continuation of the Kyoto Protocol approach, it will practically guarantee disastrous climate change.*

* From "Tell Obama the Truth," revised 12/29/2008.

Part 2: Tricky Secrets

Why cap and trade isn't what it's claimed to be.

Here's what's explained in Part 2:

(If you want to be a cap-and-trade pro.)

- 8. Cap and Trade Can't Start Gradually. Speculators start work on day one.
- **9.** A Cap Doesn't Give Certainty. Banking lowers it, and withdrawals raise it.
- **10.** Even the Cap's Total Is Uncertain. We will pay others to "meet" our cap.
- **11.** Caps Are to Raise Carbon's Price. Caps are not for raising money to spend.
- **12.** Caps Are <u>Not</u> More Market-Based. A tax prices carbon even better.

8. Cap & Trade Can't Start Gradually

Speculators will drive the price high on day one.

Bank Some Permits For the Future

All cap-and-trade bills allow "banking" of permits. They need this feature to dampen wild fluctuations in the price of permits.

Banking means a company can buy permits and keep them for years until the cap is tight and then use them. That way they avoid having to buy some very expensive permits in later years.

But here's what happens on day one. The cap is not at all tight, so the price should be very low. Say it was. A shrewd business person would say: "I know the cap will be a lot tighter in five years, so I think the permit price will be six times higher. Great, I'll buy a lot now and use them later or sell them at six times the price."

But when he and many others try to buy a lot of permits on day one, that causes a shortage of permits. And that drives the price up right away.

MIT: Speculation Starts Big on Day One

MIT researchers worked out what would happen under a cap-and-trade bill that is almost as strict as Waxman's original bill (an 80% reduction by 2050).* Because of speculators bidding up the price on day one, MIT predicted an initial permit price of \$50 per ton of carbon. They estimated this would cost a family of four about \$4,000 a year.

So why not just get rid of the speculators?

Not possible. Every businessman that needs permits would be a fool not to think about whether it's cheaper to buy them now or later. But no one knows the future price, so they are all forced to speculate on what that will be. Everyone in the market is either a fool or a speculator.

^{*} Waxman is charged with writing the new climate bill for the House of Representatives.

9. A Cap Doesn't Give Certainty

It will take 40 years before a cap gives us certainty.

The same MIT study checks each year to see if actual emissions match the cap.

For a bill claiming to reduce emissions to 20% of the starting level by 2050, actual emissions fell only to 50%. In other words, MIT says emissions will be 2.5 times higher than the cap in 2050.

How can that be? No one can cheat.

This is perhaps the deepest secret of them all. But MIT's prediction makes a lot of sense.

As we saw with Secret #8, permit prices start high and the cap starts gradually. So, at first people save more carbon than the cap says to, and they save up permits. Later, when the cap is tight, they use the saved permits. In the last year they use more savedup permits than new ones. (This type of behavior actually happened with acid-rain permits. That's what banking is for.)

The total emissions over the whole 40 years will be just right, but in most years the emissions don't do what the cap says. That might be OK, but it's not the story the cap-and-traders tell us.

Is It More Complicated?

Robert Stavins of Harvard, the leading cap-and-trade expert, assumes with MIT that a cap controls the total emissions over 40 years. But when the law is written, it might say that emissions can be banked forever. That eliminates the high-emissions-in-2050 problem.

But it means the 40-year total cap becomes uncertain. And then there is Stavins' idea for borrowing the opposite of banking ... more complications and yet more secrets.

Is a Cap More Sure Than a Tax?

Since caps miss every year, and taxes miss every year, what's the difference? If we pay attention and adjust the tax as needed, probably very little by 2050.

10. Even the Cap's Total Is Uncertain

After 40 years, who knows where we'll be?

Pay Another Country to Meet Our Cap

Secret #9 was that caps are wrong every year. But we still said the total over the whole 40 years would be right. That ignores trade with other countries.

Permits will be expensive, so business will fight hard to get to buy cheaper "Certified Emission Reductions" (CERs) from developing countries. Or if these countries have their own caps, then business will want to buy permits from all over the world.

There's no doubt this will happen. It's the way cap and trade is supposed to work, and the way it works in other countries. This means the U.S. will certainly not meet its cap, but will instead pay someone in another country to stand in for us.

Less Bad Than They Would Have Been?

CERs from developing countries, and "offsets" from the United States, are essentially permits given to those not under a cap who emit less than they would have emitted had we not offered to give them valuable permits.

After five or ten years, that gets a little bit confusing. What, exactly, would they have been doing? Maybe they're pretending they would have been bad so we'll keep paying them to be better. The UN has already documented this game many times over.

Counterfeits Are Cheaper Than the Real Thing

If there are countries in the world with, shall we say, accounting difficulties, they will be the ones selling the cheapest permits. Of course, the cheapest permits will be snapped up first.

The U.N. will get better at monitoring, but the world will get better at playing games.

The Cap and the Target Will Change

We can't see 40 years into the future.

Predicting's Hard To Do, Especially ...

Has the government, or an environmentalist, or anyone for that matter, predicted anything, besides the moon and planets, 40 years in advance?

I can't tell you how, but things will change. The cap-and-trade law will change—probably 10 or 20 times. Climate predictions will change. The predictions of what other countries will emit will change.

So, if all the foreign permits and offsets were perfect, there's still no chance that a preset, 40-year cap, will stay the same for 40 years. And if it did stay the same, the target would move and it would be too bad that the cap didn't change.

Not a Secret

Notice that the headline on this page is not in ghost font. That's because this is no secret. Anyone can see this just by opening their eyes.

The Politicians Understand

The present political approach is to set carbon emission reduction goals for 2025 or 2050. The politicians do not expect the goals to be reached, and they define escape hatches that guarantee they will not be reached. They expect to be retired before the day of reckoning. The goals are mainly for bragging rights: "mine is bigger than yours!"

—James Hansen

11. Caps Are to Raise Carbon's Price

No, the point is not to raise funds for spending.

Not for Spending

This one's no big secret either. The whole reason economists recommend caps and taxes is to raise the price of carbon. This is an idea from 1920, and raising price is the cheapest way to make the largest cut in carbon.

I list it as a secret simply because it seem's that no one has yet told Congress. In January 2009, Speaker Nancy Pelosi spoke for most of her colleagues when she said:

You cap and you trade so you can pay for ... investments in energy independence and renewables.

—Speaker Nancy Pelosi

Madam Speaker's plan to tax and spend is exactly what economists are trying to avoid when they recommend a carbon cap or tax. But why do economists think a high carbon price is so much better?

The Magic of Price

Carbon is used by millions of people in thousands of ways. Billions of changes are needed. If the government makes the changes, ... Well, it just doesn't know all those details, so it listens to lobbyists, so ... Well, you get it. It gets expensive.

We know what's best and cheapest for ourselves, and we will be more careful with our money. The same holds for business and inventors. But a **high** carbon price is the only way to get us all working on this.

How to Make a High Price Cheap

But a high carbon price means the government collects tons of money. We have a choice: (1) they spend all that money, or (2) they give it back—like Al Gore said (see page 3).

The **only** reason economists say we can afford a climate-change policy is that they assume the government will **not** spend all that money—that's expensive, not cheap. It's pretty simple, really.

12. Caps Are Not More Market-Based

"Market-Based" means price guides choices.

On the Front End: Price

Bill Chameides, dean of Duke University's Nicholas School of the Environment, asks why "conservatives [at the Wall Street Journal] are talking up a carbon tax instead of a market-based system to address climate change."

He wouldn't be so puzzled if he knew what Wall Street knows. A carbon tax is just as market-based as cap and trade, and often more so. As Krugman said (see page 3) "every card-carrying economist" approves of a pollution tax. Economists prefer "market-based."

As we saw with Secret #11, the whole point of a cap or a tax is to change the price of carbon. And there's your answer—price. Both cap and tax work by changing price. That means they start out equally market-based.*

But then what happens?

What's on the Back End?

Both caps and taxes generate value—tax revenue or valuable permits. But does the government control what this value is spent on?

If the government spends the revenue on solar panels, that's not a market-based decision—even if you agree with it. If the government gives the money away, the spending will be market-based.

Secret #11 explained that either cap or tax should be mainly market-based (no government spending) so that climate policy will work cheaply.

Market-Based, but Is It Progressive?

Here's where liberals and conservatives might part company. Who gets the value generated by the cap or tax? Hansen says: Give it back equally. That's progressive. Some say: Give it to industry. That's regressive.

^{*} No, "trade" is not the point. That equalizes the cap's marginal cost across companies, which the tax does automatically, and adjusts the tax-rate to enforce the government's cap. See Secret #6.

Summary of Part 2

Tax-Rate Speculators

Cap-and-trade is just a tax with the tax rate set by the permit market. Since permits can be banked, the price of permits today depends on their future value, which is a matter of speculation. Speculators will drive up the permit price on day one, so a cap cannot start gradually.

Banking also means that caps don't control emissions year by year, but only control the total at the end of say 40 years. But even this total means little, because we will meet our cap by buying permits or offsets from around the world. Many of these have already been found to be problematic.

What's Really Certain

Myth: Caps give certainty. Reality: Banking removes yearly certainty. Gaming of offsets and foreign permits makes the 40-year total uncertain.

But worse, certainty of capping means uncertainty of cost. That frightens people—especially politicians. So first they weaken caps, and then they create what Hansen calls escape hatches. And worse yet, the tax rate of a cap is the volatile permit price set by speculators. Voters pay this tax, and will remind us of what's really certain—*caps are just rules* that they can change.

Get More Information (and Part 2)

This eBook is based on:

Carbonomics: How to Fix the Climate and Charge it to OPEC December, 2008. 297 pp. by Steven Stoft Available from <u>Amazon</u>.

Discounted on <u>stoft.com</u> and <u>zFacts.com</u>.

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Dan Kirshner has provided invaluable help with this eBook and with *Carbonomics*.

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Who do you know?

Cap and Trade

Could: Guarantee climate disaster Bribe polluters with a regressive tax Block international agreement Would: Make your carbon efforts useless

If You Care about Climate or Energy:

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- 2. Post it on your web site.
- 3. Send this link to your Congressman: http://stoft.com/ebooks/cap-secrets.pdf

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