SPEECH THREE: MAKING A MARKET

LOCATION: Portland, Oregon

My Fellow Americans:

I have spent the day traveling the Columbia River. I have retraced the route of Lewis and Clark and met small business owners and citizens here in Oregon and in Washington. They have shared with me their aspirations and visions. Many have discussed their fears as well, especially their concerns about the natural environment. Many have told me that environmental quality is why they are here. For a large fraction, the environment is their livelihood. They are outfitters and innkeepers and farmers. The environment, they say, is luxury and necessity all in one.

Over the last two centuries our modern society has confronted and solved many environmental problems. Nearly all these have been local or regional in nature. About one hundred years ago this great nation faced a terrible timber crisis. Railroads and farmers, especially in the East, were cutting trees much more rapidly than the forests could recover. We solved the crisis by creating the U.S. Forest Service to manage the forests and by supporting programs that helped farmers learn to grow more food on less land. Similarly, we have largely solved the local pollution problems that, until recently, bedeviled city life. From contamination of the water supplies to killer smog, we have risen to the challenge. Today, we are cutting emissions of sulfur dioxide, nitrogen oxides, and mercury from power plants. We are working to reduce emissions of fine particulates, which have proved to be more dangerous to human health than previously thought. For those who claim that environmental quality is in perpetual decline, I say look at the record. It is quite impressive. We have caused real harm, but we have also found real solutions.

Now we confront the problem of climate change. I am not exaggerating when I say that this is today's most serious long-term threat to environmental quality. I will not recount the evidence in detail, but you have all heard it. Global temperatures are rising now and will rise further. Weather patterns will change. Sea level is likely to rise, at least a bit, and storms may become more intense. The stress of a changing climate will alter natural ecosystems, driving perhaps many species into extinction.

Most of these changes in climate are the result of human actions, mainly the emission of carbon dioxide, which is a byproduct of burning fossil fuels.

You will see the effects of climate change right here. Warmer temperatures are likely to reduce snowpack. More water will flow down the Columbia in winter—when it otherwise would have been locked up in snow and ice on the mountains—and less in summer. Electricity prices may rise, since the water for Bonneville and other dams along the river is much more valuable in summer, when demand for electricity is growing as more people install air conditioners. Hot summer temperatures will probably affect fish in rivers and the rest of nature. Such effects, though varied, will be felt anywhere and everywhere on Earth. For perhaps the first time in history, there is no place on Earth where humans can experience a pristine environment; the signature of mankind's pollution of carbon dioxide and other greenhouse gases is truly pervasive.

It is safe to say that we don't know the exact consequences of a changing climate. But it is also safe to say that we know enough to be worried and to take precautionary action now.

Today, I'd like to outline the response that we—as Americans and as citizens of Earth—should pursue. Our effort must begin here at home. Only with credible programs in place can we lead the world.

We will be successful in solving the problem of climate change only with new thinking about the role of government in the economy. We will never find cost-effective solutions if we think about carbon dioxide and other greenhouse gases the way we have traditionally thought about pollutants—with mandates for

end-of-pipe technologies. We must create new markets with strong incentives for private firms and individuals to invent radically new methods for supplying energy services. It probably means, over fifty years, building a new economy that relies far less on fossil fuels.

To understand the magnitude of the task, imagine your day without fossil fuels. No car; no electricity in most of the country; no air travel; no gas for cooking and heating. Obviously we can't make the shift overnight. Luckily, climate change is the result of a slow accumulation of greenhouse gases in the atmosphere. So long as we don't squander our time, the atmosphere can afford the fifty years that we will need to make the change in our energy systems.

There are great dangers in undertaking this transformation of our economy. The costs could be enormous if we adopt foolish policies, such as mandates for firms and households to adopt particular technologies. Some say that we should not pay attention to cost because the urgent needs of planet Earth must come first. I don't think that is realistic—we must pay attention to cost because a program that imposes an excessive burden will not sustain the political support that is necessary to be effective.

For those who care most passionately about solving the global warming problem, I warn you: ill-conceived remedies that are not politically sustainable can cause even more harm than inaction. The United States government left the Kyoto Protocol on global warming precisely because we consented in Kyoto to commitments that outstripped what we could reasonably deliver. When key countries exit, the regime founders.

The only way to make this transformation is through the market itself. The market must reflect the real cost of carbon dioxide. Today, the price of gasoline made from oil or of electricity made from coal does not reflect the burdens of global warming. How can we get the prices right?

We can start by not getting prices wrong. The energy industry is second only to agriculture in the level of subsidy that all of us taxpayers provide. We deliver subsidies directly. We also indirectly distort energy markets, for instance by providing free

protection in sea lanes for oil tankers. Because of those subsidies we have succumbed to pressure to subsidize new entrants as well—in a costly effort to re-level the playing field. Thus today we not only subsidize fossil fuels but also wind and solar and nuclear energy. We invent reasons for still more subsidies—we subsidize ethanol, a liquid fuel made from corn, in part on the fiction that ethanol-blended fuels are a cost-effective way to clean the air. We let automakers get special fuel efficiency credits when they manufacture vehicles that can burn ethanol and other locally manufactured fuels, on the logic that such fuels do not require us to import oil—yet few of those vehicles, in practice, burn anything but the same oil-based fuels that the rest of us put in our tanks. Our government can't afford these subsidies, and they undermine the principles of free-market environmentalism that will boost our economic productivity even as we protect nature. We must work with other countries to narrow then stop all subsidies for energy.

To go further—beyond removing insidious subsidies—we must create new policy instruments. For several decades this country has experimented with market-based mechanisms for controlling pollution. The best model is the highly successful program that we adopted in 1990 to control emissions of sulfur dioxide, the leading cause of acid rain. In that case, we cut emissions in half by imposing a cap on all the major sources and then letting firms trade emission credits. Some firms found inexpensive ways to apply new technology, giving them surplus credits to sell or bank for the future. Others bought credits rather than install technologies that were not cost-effective. The incentive to control emissions spurred innovation—proof that environmentalism can go hand in hand with innovation and strong economies.

My administration is making much greater use of markets for controlling many other forms of pollution as well. We are building on the work of several northeastern states to create a market in nitrogen oxides; we are also creating a new market in mercury emissions. Although much of the federal government's efforts to protect the environment still employ traditional "command and control" methods—where government, in essence, tells you which

technologies and processes are best—we are making progress in the shift to market-based strategies. You may not know it, but the results are visible all around and even in your pocketbook. Good studies by serious economists have shown that these market-based approaches typically cut pollution for about half the cost of traditional government regulation. That leaves more resources for the environment and the economy.

We must create an emission trading system for carbon. Unlike the federal government's current voluntary efforts, America must have a binding system that strives to include all sources, so that no firm or family is disadvantaged. But we must be mindful that many fluxes of greenhouse gases are hard to measure; we must discount those to ensure that our trading system has integrity and to create incentives to develop better systems for monitoring. We must pay particular attention to the opportunity for changing land use practices so that our soils absorb more carbon. Low-till agriculture, integrated land management, and reforestation are among the many ways that farmers and foresters can do their part while gaining credit. Not only is this good for climate, but it will also help to slow soil erosion and protect biological diversity.

The federal effort must begin modestly. Senators McCain and Lieberman proposed a bill that made a good start, and I support it. The federal effort must not supplant important action in the states. Oregon is at the forefront of those efforts. You have set voluntary targets for reducing emissions. You have formed a pact with Washington and British Columbia to pursue a regional strategy for controlling emissions, and complementary efforts in California are leading to a western states approach. Nearly all the states in the Northeast are working together to develop a trading system for emissions of carbon dioxide from power plants. Some of these efforts reflect frustration that the federal government has not done more. But some also reveal keen interest in experimenting with new ideas and concepts that, eventually, could be woven into a broader program. I applaud that. As in so many other areas of American policy, the state laboratories of federalism are essential

to our success in identifying the best policy strategies for the nation.

That logic is fine enough, but global warming is a global problem. What should be done in the rest of the world? We must not have any illusions. If we do not have a credible answer to this question we are unlikely to solve the problem of global warming.

For the last decade the countries that have cared most about solving the global warming problem have tried to create a global regime for capping the emissions of greenhouse gases, as well as an international system for emission trading. They have worked "top down," and the most visible product of their venture is the Kyoto Protocol.

The Kyoto vision has not worked. For one, the cost of meeting any demanding treaty obligation that includes emission trading is extremely sensitive to the actions of many other governments working in concert. Yet concerted action is extremely difficult to achieve under international law as each nation's interests and circumstances change with time. In the case of the United States, the caps were set at a moment when America's diplomats were unaware of how rapidly our emissions would rise and how much it would cost to comply.

Kyoto's architects imagined that all nations would participate and move in lockstep. All would measure compliance with the same metrics; all would recognize, broadly, the same trading rules. That's a tall order under international law—where enforcement provisions are weak and prone to becoming politicized. And it is a dangerous, unrealistic vision because it creates treaties that are prone to unzip—as Kyoto has done.

As the years rolled by, it became increasingly impossible to attain the Kyoto limits. When the United States exited the value of emission credits that Russia had hoped to sell us plummeted. As the Russians wavered it became less likely that Kyoto would ever enter into force as a binding treaty. With Kyoto then hanging in the balance, developing countries found that the rush of investment and new technology promised in the Kyoto bargain did not materialize as expected.

This top-down vision is particularly problematic because it is hardly clear how to set the best rules. Some nations want to encourage the protection of tropical forests. Others are opposed—they want to keep pressure for transformation focused on the energy system, where emissions are larger and easier to measure. Some want to give credit for nuclear power; others not. In the top-down system all these disagreements must be worked out in advance of the trading system actually operating, with little practical experience to guide the design.

For too long we have thought about this task as an environmental problem. The real nature of our challenge is little different from inventing a new form of money—a carbon currency. Eventually, when the carbon market takes hold, everyone will examine the carbon consequences of their actions, just as everyone today thinks about the capital requirements of their behavior, whether it is building a new factory, buying a car, or constructing a home.

In creating a strong carbon currency we must get the rules right at home. And we must work with nations that are committed to ensure that carbon emission credits have real value. All the while, we must ensure that government does its best to stay out of the way as markets find their prices.

We can start by establishing a trading system here in the United States. Europe has already offered its vision in its own trading system. Canada is exploring a similar move; we should urge Japan, also, to look at using markets to cut carbon and other greenhouse gases. We have an interest in other countries' establishing effective trading systems, and they have an interest in our doing the same.

As each creates its own sound trading system the zone for trading will grow and so will the gains from trade. The emergence of different zones will allow us to discover which countries are managing their new currency well. We will trade with them. We will scrutinize those that are printing extra permits and adopting procedures that undermine the strong currency. With them, we will allow trade at a discount or not at all. At the center of this evolving system will be the world's largest market—the United States.

Through our policies and our decisions about which permits to honor we can assure that the nascent international emission trading system is built on effective and efficient rules. In doing that, we must work with Europe and Japan to expand the size of the market and assure a strong currency. Together, we can guarantee the integrity of the global effort.

This view will be controversial. For too long those who have accepted the need for serious action to slow global warming have also assumed that a top-down international treaty was the only solution. Yet the lessons of history suggest that the most effective international institutions begin with the efforts of a small like-minded core.

Consider the World Trade Organization—today's most effective and successful example of international regime building. The WTO did not spring forth from a top-down vision for international trade. Rather, it was built up through a series of bilateral agreements that were packaged together into a truly multilateral approach known as the General Agreement on Tariffs and Trade. Eventually the WTO emerged, and each member of the WTO has been expected to adopt a long and complex series of commitments. It would have been impossible to impose such sophisticated and interlocking commitments on the WTO's members if the trade regime had not first built experience and confidence with less intrusive and more decentralized rules.

This alternative organic vision helps us to focus on what we must do now. In the Kyoto system, most experts have anticipated that trading would begin with Russia and the developing countries. Those countries offer the greatest opportunity for low-cost emission controls. But these countries are also least likely to create a sound currency. With few exceptions, they do not have the legal and regulatory institutions in place to assure adequate enforcement. In the case of developing countries, the Kyoto approach doesn't even cap emissions, making it essentially impossible to know whether emission reductions are genuine. A much better strategy would create a zone of trust first with the countries that we know share our interests and have the capacity to support sound money. The

European system offers the best opportunity for exchange. It is built on a solid foundation and backed with vigorous enforcement.

Some will criticize this vision as too slow and too small. They will say that we must start with all nations—including developing nations and Russia. They will also say that we must move rapidly.

But we must not underestimate the difficulty of creating a new international currency. The European Union has recently created a new international currency, the euro. That has been a long and arduous process: enforcement has proved difficult when powerful countries such as France and Germany violate the rules. Keeping the system on an even keel has proved difficult, even though the Europeans have created a strong new central bank especially to manage the euro.

We must not underestimate the risk to our prosperity and to our success in slowing global warming if we get this wrong. We cannot afford to include in our new currency nations and markets that will undermine integrity, just as we do not tolerate those who counterfeit our dollars. Prosperity requires credibility and confidence in the rules that govern the economy. I can assure you that there is no faster way to erase, with great pain, our diligent efforts at slowing global warming than to hurriedly create a system that will come unraveled when some unscrupulous trader in a distant land is given the opportunity to attack.

Even as we work with a small group of countries to create a strong currency, we must not ignore the imperative to control emissions worldwide. Indeed, the stronger our effort the greater the need for those outside the zone—notably Russia and the developing countries—to make their contribution as well. We in the industrialized world care most about this issue and we have caused most of the problem, and thus we must lead. But we must also be vigilant in ensuring that the cost of action does not tilt the playing field of economic competition too steeply against us, as that will make it harder to sustain the political will needed for this great transformation in our economy.

We can do two things to engage the rest of the world. First, we can put all on notice that they will soon be expected to join the strong trading system that the United States and like-minded allies are building. Indeed, we will explore a wide array of strong incentives—including sanctions, which have worked in other international environmental arrangements—to ensure that, eventually, no nation gets a free ride. If we make a severe effort to cut emissions we should even explore making access to our market conditional upon others making comparable efforts.

I propose that we start with our own program—on a trial basis for 2008–2012 and in full operation for the years 2012–17, which dovetails neatly with the European emission trading system. We will work with other nations in the zone to build a nascent international trading system. For the period after 2017 we will expect the biggest and wealthiest developing nations—Brazil, China, India, Mexico, and South Africa among them—to join the system. I will work with Congress and with the leaders of other nations to reach agreement on the exact targets and timetables for action.

Second, in the interim, we have an obligation to work with Russia and developing countries on broad programs for controlling emissions. Already there are many opportunities for controlling emissions that are in these countries' interest and could be pursued more rapidly. They include plugging the holes in the Russian gas pipeline network. They include the efforts in most countries—including China and India—to make greater use of natural gas instead of coal. Gas emits just half the carbon dioxide per unit of useful energy that coal does. When China builds its gas network it will lock itself into a future energy system that is cleaner. That is good for China, good for the world, and good for the nations—from Australia to Indonesia to Russia—that sell gas to China. We can encourage that shift by sharing information about gas networks and ensuring that private investors in the gas business have fair access to the Chinese market.

We must not pretend that our effort to build a strong currency will advance by awarding piles of emission credits as inducements for China, Russia, or any other nation that is not part of

our currency zone. How many credits should China get because it builds its gas network? Should we reward Russia with emission credits just because its economy has collapsed and it is investing in projects, such as energy efficiency, that make sense anyway? These difficult questions have been a mainstay of debate in the Kyoto system, and they have led diplomats to concoct a Kyoto trading mechanism that will be tied in red tape.

Already Kyoto has created something called the Clean Development Mechanism that issues credits project by project for investments in developing countries. The idea was to reward investors whose actions reduced emissions to a level lower than would have occurred otherwise. That was an admirable idea at the time, but it has proved unworkable because the most important investments for reducing long-term emissions—such as building gas networks to displace coal—are not discrete activities for which it is possible to make an unambiguous determination of credits. It is telling that the Clean Development Mechanism, while slated to start four years ago, has made barely any progress in awarding real credits.

The programmatic efforts that I propose are a better alternative. They will help put developing countries on better pathways. They will also help us grow climate-friendly export businesses. Our task as policymakers and citizens is to create a practical system and then to let our market-based economy do what it does best—invent and apply solutions.

We can be successful in this effort, but only if we do not tilt at false windmills. With Kyoto we have tried both too much and too little. We have not paid close enough attention to creating a robust system first here in the United States. We have not explored adequately ways to work with our allies—especially in Europe—to create a system here that links with the trading system that is already taking shape over there. And we must ensure that we do not frustrate these fragile but important efforts by loading ever larger subsidies on the already grossly distorted economics of energy.

I am confident that when we get the incentives right, solving the climate problem will be much easier and less expensive than we think. The key to our success lies in adopting the right models as we invent this new currency. With sustained effort we can, indeed, transform our energy system—and the world's—in time to check the worst of global warming.

We need a century to see the full fruit of our efforts. To gain confidence in our success, look back one hundred years and see how much has changed. You would see no highways and essentially no automobiles. Average life expectancy was three decades shorter than today's seventy-seven years; nine-tenths of doctors had no college education, and only 8 percent of households had a telephone. And back two hundred years you would not have heard yet of Lewis and Clark. With the right time horizon in mind we can channel the vibrant innovation that has made the American economy strong and will make our environment cleaner as well.