

# GREAT DECISIONS

## GDTV SHOW #3 Global Energy Outlook

HOST: Ralph Begleiter

GUESTS: Paul Roberts, author *The End of Oil*  
Vijay Vaitheeswaran, global environmental and energy correspondent,  
*The Economist* and author of *Power to the People: How the Coming  
Energy Revolution Will Transform Industry, Change Our Lives, and  
Maybe Even Save the Planet*

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>> Begleiter: With gasoline prices in the U.S. soaring to unprecedented heights after the disruption to supply lines caused by hurricanes Katrina and Rita, Americans are now paying what Europeans and others have paid to fuel their cars for years. Winter heating fuel costs are driving home the price of depending on the Middle East and other producers for energy. Although government and industry have recognized the problem for decades, many Americans ignored it, choosing to drive gas-guzzling cars and pay scant attention to home energy efficiency. How long can the U.S. sustain this attitude? What are the alternatives? Global energy outlook, coming up next on Great Decisions 2006.

>> Female announcer: Join us as Great Decisions Television celebrates 20 years of inspiring Americans to learn more about the world. Great Decisions is produced by the Foreign Policy Association. Funding for Great Decisions is provided by The Starr Foundation, The Morse Family Foundation, The William and Karen Tell Foundation and U.S. Trust. And now from our studio at New York University, here is Ralph Begleiter.

>> Begleiter: Since the first modern well was drilled in 1848, oil has been the world's predominant source of energy, fueling infrastructure, trade, and transportation around the globe. Today, no country is more reliant on oil than the U.S., which consumes more than 25% of world production, roughly 20 billion barrels a day. More than half of U.S. oil is imported, and Saudi Arabia, home of the largest reserves in the world, is a leading U.S. supplier, along with Canada, Mexico, Venezuela, and Nigeria. This reliance on foreign oil, however, makes the U.S. extremely vulnerable to market fluctuations. Experts warn a major security incident in an oil producing country could easily send prices up to \$150 per barrel, more than double today's cost, a threat reminiscent of the political disputes which caused shortages in the U.S. in the 1970s. Natural disasters can also threaten energy markets. Last September, hurricanes Katrina and Rita shut down nearly all oil production in the Gulf of Mexico, driving oil prices to a record high, and from a geopolitical standpoint, American dependence on foreign energy has long complicated

U.S. policy in the Middle East and Central Asia, often conflicting with U.S. objectives in those regions. In addition, rapidly developing economies in India and especially China have raised worldwide demand for oil. All this has prompted the Bush administration, like others before it, to focus once again on energy independence. Besides being the world's largest consumer of energy, the U.S. is also responsible for 1/4 of worldwide energy-related carbon emissions. China and India, too, contribute to this energy-related environmental problem. How much longer can we afford to continue down this road? Most agree that alternative energy sources, solar, wind, hydrogen, and nuclear, are part of the solution. The path to energy diversification is filled with obstacles. Joining us today to discuss these challenges are Paul Roberts, author of *The End of Oil*, and Vijay Vaitheeswaran, global environmental and energy correspondent for *The Economist* and author of *Power to the People: How the Coming Energy Revolution Will Transform Industry, Change Our Lives, and Maybe Even Save the Planet*. Welcome to you both. Are Americans addicted to oil? Have we become just an addict nation, Vijay?

>> It's certainly true that America is the world's biggest consumer of oil. We use about 1/4 of the world's oil, almost 1/2 its gasoline, and we use it incredibly inefficiently, so I would say certainly yes. But the problem is bigger than America. The world is addicted to oil. We have no real meaningful alternative to move our cars and buses and airplanes, and in that sense, it's a global problem with America in the driver's seat, so to speak, of the SUV.

>> Begleiter: Paul, are we an energy hog?

>> Well, we are. We use the most oil. 25% of all global oil, and we also have a political culture that is addicted to oil. We've become complacent. We've become accustomed to cheap oil, and so anytime a politician tries to suggest using less, becoming more efficient, spending money on alternatives, he or she runs into a great deal of resistance, because Americans feel we have a sort of a constitutional right to cheap energy.

>> Begleiter: Good point, though, Vijay, about the world having this problem. Does that affect politicians globally as well, Paul?

>> Well, absolutely. I mean, right now we're seeing politicians around the world having to deal with the pain that oil prices are causing consumers. Some countries subsidize energy prices, and so they're facing rising costs, governmental costs to keep their people in cheap energy. I think the problem's going to reach ahead for countries around the world, because no matter where you are, you're using oil, and that oil is getting more expensive.

>> Begleiter: Vijay?

>> I would add to that. We here in America subsidize energy and oil in particular in ways that many Americans don't even understand or have not seen through the political process, because it's not very transparent. Simple examples. There are extraordinary amounts of subsidies, in the tens of billions of dollars, if not more, in energy legislation,

in tax giveaways, in the way that royalties are paid into oil that's drawn from federal lands, for example, at below-market prices. The Army Corps of Engineers will dredge canals for oil tankers to go by at taxpayer expense, but they won't come and help you set up windmills in your backyard. In many, many ways, the policies of the U.S. are biased towards the oil economy: the way that we built our freeways and encourage the building of suburbs but discourage mass transit or underfund it, and we have a built-in bias towards the oil economy. And that's not even looking at the cost of, at least part of the cost of keeping military presence in the Middle East, which is surely a form of subsidy for oil that we pay through our tax dollars rather than paying at the pump.

>> Begleiter: We in the United States, we go abroad. We travel abroad, and we take a bus or a train in Europe or in Africa or in the Middle East, and it's a lot cheaper than we take a train for here in the United States, and yet, so there's high subsidies in the rest of the world for mass transit, yet we come home here. The price is still pretty reasonable and we can't keep mass transit running. Is that what you mean when you say subsidize or don't subsidize adequately mass transit?

>> Well, we never invested adequately in public transit in this country to begin with. Part of the reason-- I personally think the main reason Americans don't take mass transit is because the network was never built out broadly enough to be meaningful. In cities where there is good mass transit, if you look mostly on the east coast, Boston, DC, New York, and of course San Francisco, cities that have invested, you find that many people do actually take the mass transit system when given an option. I mean, Americans believe in choice. If we had made public policy choices that allowed them the freedom to make that choice, I think people would make that decision, but that takes investment for the long term, something our political process isn't so good at. Meanwhile, we do in many ways that go back to our policies from the '50s and before, favor the open road, the frontier mentality that America was built on, the idea that, in some ways, the illusion that any of us can escape in a car, and I love it too. I'm an American. I grew up here, and I grew up with a car and a sense that you can go on road trips. These are all things that the car as an icon has come to symbolize. Americans love that idea. My only problem is that we're not paying an honest price for that freedom, and that quashes the reasonable alternatives to oil.

>> Begleiter: Paul, we pay-- Americans complain about the high price of gasoline in the United States, but we still pay a lot less than people in other parts of the world.

>> Absolutely. In Europe, you might pay \$6.50, the equivalent of \$6.50 a gallon of gasoline.

>> Begleiter: Most of that's not for the gas, for the oil, though, is it?

>> Most of it's in the form of taxes, because the European governments have really built their tax system on fuel taxes. It's important to keep in mind-- I mean, Europe's always thrown up as the example of a region that's doing it right when it comes to public transportation, and if you spent time over there, you come home marveling at the trains

that do run on time and the fact that people are willing to drive smaller cars and are willing to live closer together and live the way that would be required for mass transit. It's important to keep in mind, though, that that reality emerged from a kind of a divergent reality after World War II. I mean, think of it. Europe comes out of World War II in ruins. It has to ration everything, including energy, and what results is a culture of conservation. You know, it's people who are willing to use less, to get by on less. They just simply didn't have the money to buy things, so small cars and public transportation seem reasonable. America, by contrast, emerges from World War II as a country with more oil than it knows what to do with. I mean, we had built up our oil production facilities to supply Europe in the war effort during World War II. When we were done with that war, we had the cheapest oil, the cheapest gasoline and diesel imaginable, and, you know, it was in that sort of heyday of cheap energy that America's car culture really took off, you know, where people did-- It was almost no cost to get in your car and hit the open road, you know, and that's really the heritage that you're struggling with, because that's what everyone's grandparents or parents remembers, the big cars, the cheap gasoline, the endless highways, and now we're being asked, you know, to conserve, to use less. It just doesn't make sense.

>> I would agree with Paul that that's our heritage, but I would say we have a more recent example of how Americans can take some comfort and have hope that even here in America we can be much more efficient while still growing the economy strongly, things that are quite important to America, and rightly so, I think, as the engine of the world economy. If you looked at what happened after the oil shocks of the 1970s, America actually learned how to become more efficient and how to conserve energy in the years that followed very much because of public policy that was put in place about fuel economy rules for cars, for example, plus the higher oil prices of the time. We found that the average fuel economy of cars increased dramatically, cars coming from Detroit as well as imported cars, and on average fuel economy of cars raised 40% at a time when the GDP, the economy of the United States grew by leaps and bounds, by a quarter in the years that followed the oil shock. In other words, it was perfectly compatible to be more fuel efficient and create lots of jobs. The problem is when it came to the time of the 1990s, sort of the go-go economy, when oil prices were low and stable, we forgot those lessons. We allowed, through the politics of lobbying in Washington, allowed loopholes in the system that governs fuel regulations for cars, the so-called CAFE law, and so that allowed SUVs, pickups, these big gas guzzlers like Hummers, to escape what were public policy measures that were supposed to be in place, and so the net result is America is close to a 20 year low on fuel economy.

>> Begleiter: We may be seeing kind of a resurgence of that sort of technological change now with the development of the hybrids, particularly by Japanese companies. Do hybrid vehicles mean a real answer to this problem, or kind of a drop in the bucket? Paul?

>> They're a small part of the answer. I mean, hybrids let you, with existing technology, cut your emissions in half and cut your consumption in half, and that's a huge positive, but they're still using gasoline. They're still using diesel, so they're not where we want to be ultimately. What they do is, they buy us time, which I think is going to turn out to be

the most precious resource here. However they have to be--that time that we buy with hybrids has to be used in concert with a long-term policy. What are we going to use after oil, you know? What are we going to be putting in those hybrids 20, 30 years from now, and it's really-- It's that kind of comprehensive, long term strategy that this country hasn't been able to put together.

>> Begleiter: Is the industry working on that? Are they working on a long term strategy?  
>> Right now I think Detroit's learning. It's being taught by the Japanese once again that you can build a hybrid car. You can build it cost effectively. You can build it so consumers like it. We're seeing hybrids not just the little geek cars, but we're seeing hybrids-- You know, there's SUV hybrids. There'll be big muscle car hybrids that actually won't, you know, get any fuel savings, but they'll convince Americans that it's okay, that it's not sissy to have a hybrid, and I think that's, you know, the industry teaching itself a lesson. How far Detroit takes it, I think, is the huge question.

>> Begleiter: Vijay? >> I think, Detroit, I think, as every car maker in the world, is now investing a billion dollars or more into making these cars of the future, but there are two problems. >> Begleiter: I knew there was a but to this.

>> There is a but. First of all, the car companies in Detroit, especially, are basically bankrupt because of legacy issues to do with pensions, health care programs and frankly not being very good companies really. The Japanese car companies really know how to innovate, how to invest in the future, think for the long term. That's why Toyota was the driver behind hybrid technology and frankly for fuel cells, the new power plants that might replace today's combustion engines, the ones that would use hydrogen, for example. The Japanese companies are taking the lead, but GM, for example, is investing more than a billion dollars, and they have said, "We want to take the car out of the environmental debate." Right now that's an extraordinary assertion. Bill Ford, the great grandson of Henry Ford himself, has said fuel cells will finally replace the hundred-year reign of the internal combustion engine, and so these are extraordinary statements of vision, and with real money behind it at the big car companies, but there's another but, and that is the oil companies, who have hundreds of billions of dollars invested interests in assets in the gasoline infrastructure. They're not very excited about switching over to some new kind of fuel that they don't really have investments in or they have to make a lot of money to switch over that maybe people won't like, and so they're very risk averse, and they're choosing to spend their huge profits, because they are hugely profitable thanks to high oil prices, not in investing in fuels of the future so much. There are a couple of exceptions, but most oil companies in the world, but rather to give the money back to shareholders or to drill for more oil, and so you have a mismatch, and I think that's really where public policy needs to play a role. If we get government policies right, they give incentives for the future. Make it very clear to industry and to ordinary citizens that clean energy, clean cars, clean fuels will be rewarded in the marketplace, not the dirty ones, not subsidizing dirty ones. Then you send the signal to oil company board of directors that where do we need to invest to keep our company alive even in a hydrogen economy?

>> Begleiter: Want to come back to the short term for just a moment here. Talking about another Asian power, China, I think many Americans have discovered, maybe a little bit abruptly, that China's enormous development is sucking up world oil resources, energy resources, in a way that maybe could threaten the United States. Is it a threat to the United States, Paul?

>> Well, economically. I mean, right now, China is going through a tremendous growth spurt economically. We know that economic growth requires energy, especially when you want to build your economy around transportation, which the Chinese want to do. The Chinese have recognized what transportation did for our own economy, and they want the same kind of results, and then consumers. Chinese consumers like to drive. It's not simply industry that is sucking up oil. Consumers have discovered the car, and you put those two together, and it helps explain why China's now the number two user of oil in the world. They passed Japan last year, and although they're years from catching up with the number one user, which is us, they're on track to get there, and when they do, it's not going to be a pretty sight, because it's going to-- You know, China, like the U.S., can't produce all its oil at home. It's relying more and more on international markets, the same markets we do. This is putting it in competition with us and with other importers like Japan. So far that competition's remained in the diplomatic and political and economic realms. We have a competition between China and Japan right now, for example, over access to Siberian oil, but that competition is going to more and more color international relations, and I think the big question now is whether we can keep those kinds of competitions in the economic realm, or whether it's going to become a little more dangerous.

>> Begleiter: Vijay, your view of the Chinese role?

>> I think I take a slightly different view. I don't think China's rise is so much of a threat to the U.S. I think China's growing prosperity is a tremendous opportunity. We have more consumers, growing trade, a wealthier part of the world, less prone to economic crisis which require bailouts and so on as we saw with the Southeast Asian crisis or the Mexican Peso crisis in the '90s. A stronger booming China is good for America, good for the world, but in terms of the specifics of oil, I think that even there the Chinese have already seen in their own interests that they don't want to follow the path that America has followed on fuel economy. They've already introduced laws for new cars made in China. They have to meet tougher fuel economy standards than we do here in wealthy America. This is a developing country. You might ask, "Why are they doing this? Are they so environmentally conscious?" Now, to some degree, they are actually quite concerned about air pollution issues in Beijing and so on, but the real reason they're doing it is that the hard men of the military right in China are worried about energy security, that is, the rising imports that Paul talks about, reliance on the Persian Gulf, and the threat that if there were ever to be a war over Taiwan, the U.S. could blockade those oil shipments. China doesn't have a blue water navy. They don't have the capacity to guarantee access to oil, and so the energy security concern is actually driving them to be more energy efficient because they're concerned about-- Geopolitics works, in this case, in favor of energy efficiency in China, in what some people call technology leapfrogs. I

predict that China could very well come up with the first affordable fuel cell hydrogen car. There are over 300 different companies, academic labs, government divisions, and military divisions in China right now working on fuel cell technologies. That is, the ones that would feed into the cars and power plants, the clean cars and power plants of the future, and they see this as not only for their own market, but possibly as an export opportunity. So they may very well leap ahead.

>> Begleiter: Is it possible, do you think, that that kind of demand from China might actually drive American car companies to produce vehicles to meet Chinese standards which ultimately end up moving the United States more in the direction of better conservation?

>> I would love it if that were the case, and it would be a wonderful irony, but I think realistically a developing country probably will not adopt the most aggressive environmental standards at the end of the day. It'll probably be a place like California, for example, or Germany, which is places that have typically been at the forefront of the world environmental regulation, and California particularly is the singular reason the world car industry is investing what it is in clean energy technologies. By itself, it's the world's sixth biggest economy, and they have for 20 years or more, actually, been fighting the smog in LA. They have a long tradition of telling the car companies, "You had better clean up your act," and now they're taking on what I think will be the greatest challenge of the 21st century for the car and oil industries, and that is global warming. The first law in America that concerns carbon dioxide emissions, that is, the main greenhouse gas, California has passed a hugely controversial law, but one that was supported by the previous Democratic government and now the Republican governor of California that says car companies have to control their emissions of greenhouse gases. This is being challenged by the Bush administration. It's being challenged by the Detroit car companies, but if it sticks then I think other states will follow, like New York and many others who have said they will. This will change the game in terms of what has to happen. It will accelerate the arrival of the clean 21st-century car.

>> Begleiter: So do I hear another irony in what you're both saying here, which is that even if we're in a bit of an oil crisis, there's a crunch going on, prices going up both at the wholesale level and the retail level, that industry is being driven in the right direction, quote-unquote, and that we may also be able to solve some of those global environmental issues?

>> Well, I think there's two things to keep in mind. Already we're seeing certain industries responding to high prices: airlines, who are hugely sensitive to the price of oil, and trucking companies, transportation. Consumers are, you know, that's a big if, because we're not seeing the kinds of behavior changes among consumers that we expected as the price of gasoline went up, so that's one—

>> Begleiter: What do you mean by that?

>> I mean, you know, right now we're seeing consumers complaining a lot about gasoline, but we're not seeing the huge drop in consumption. We're using more gasoline this year than we were last year, more the year before than the year before that, and I think what a lot of consumers-- They're either deciding consciously that, you know, the price of energy or gasoline is not that big a part of their budget, or they're not thinking about it. Maybe they don't feel like they have a choice, but that's a question, I think, that really has to be addressed at the policy level. We can't simply wait until the market makes the price of oil so high that we stop driving as much. At that point, it's too late. It's too late to develop alternatives, and it's too late to make the transition in a smooth way, so, I mean, that's clearly, you know, a question for policy makers. I think longer term, you know, China and the U.S. aren't probably-- I mean, if we come to blows over oil, oil's going to be the least of our worries at that point. You know, I think probably as Vijay points out—

>> Begleiter: Do you mean a military confrontation?

>> Well, I mean, that's the scenario that people talk about. It's like, you know, already we've got Chinese generals worried about what happens if the U.S. tries to cut off their access to oil. Probably, you know, the bigger worry, I think, is really, even in a peaceful situation, even if relations between those countries remain productive and peaceful and cooperative, we still have the issue of Chinese demand. I mean, we've all been caught by surprise by the amount of growth in Chinese demand for oil.

>> Begleiter: And that's not going to stop anytime soon.

>> Right, and actually that really points out an important difference in this price spike over previous ones, and this one has been led by demand. You know, we haven't had a huge disruption in production. It's not like OPEC taking oil off the table. It's not Venezuela going on strike. It's simply the fact that we're using more oil than we have in the past and producers of all kinds are struggling to meet that demand, and that's a situation that, well, it's dangerous for two reasons. First of all, it means that the market is now so tight that volatility is the characteristic. Anything, any hiccup in the system, is going to drive prices up, and there isn't the buffer that we used to enjoy. Used to be that Saudi Arabia had a lot of extra oil production capacity. They could bring on line in the case of disasters. In the past we had between four and ten million barrels a day of extra oil capacity. Today we've got between 1 1/2 and 1/2 million barrels a day, and so what that means is that any accident in the system can drive prices up. And so we're in a situation now where we have no choice but to innovate, because, you know, the longer we wait, the higher the risks go.

>> Begleiter: Let me come back to the geopolitical here for a second, because you mentioned Saudi Arabia again. I don't think Americans often make connections between the price of the gasoline at the pump or the price of oil per gallon or per barrel and the political connections the United States has throughout the world, whether it's to China and the competitive relationship with China, or it's the friendships in the Middle East that the U.S. has made. Your scenario seems to suggest to me that maybe in the future those

political connections to Saudi Arabia and other major oil producers in the Middle East might not be so important, that those leaders might not have the same kind of clout over the U.S. market as they do today because other factors are more powerful. Is that a bad analysis, good analysis, what?

>> No, it's quite the opposite.

>> Begleiter: You think they'll have more clout.

>> Absolutely more clout.

>> Most analysis done by the U.S. government, Department of Energy, mainstream forecasters, show that the Middle East's share of oil production, and in particular Saudi Arabia, will increase dramatically in the next 20 years. And it's for a simple reason. That's where the oil is, and that's also where the cheapest and largest reserves of proven oil are. 2/3 of the world's proven oil reserves lie in the hands of just five countries: Saudi Arabia and its four immediate neighbors. 1/4 of the world's reserves are in Saudi Arabia alone, and as I say, these are the cheapest, the best, the most accessible reserves. You don't have to go up into the Siberian wilderness, spending a lot of money and taking a lot of risk, drilling deep down into the earth to get these reserves. And so for a lot of these reasons, the extra barrels have to come from, in some ways, the politically riskiest parts of the world. That's going to strengthen the hand of the OPEC cartel, and in particular these fragile dictatorships who are now beginning to question their allegiance to the United States.

>> Begleiter: So it's going to be even more dangerous or even more threatening in the future than it is now?

>> Absolutely. I mean, if you think about it, right now when we say that we'll be relying more and more on OPEC in the future, those are forecasts for what we hope will happen. In other words, we hope that OPEC will be able to deliver that oil. There's a whole separate set of questions, geological questions, whether OPEC can actually deliver the kind of oil that will be asked of it, but I think that, you know, even if-- And so we assume the demand rises steady and that we don't have-- I mean, all these forecasts assume that we're not going to develop alternatives. They're very pessimistic in that regard. Now, let's imagine instead, though, that we had in the next 10 years developed a whole slew of alternatives. We had new fuels. We were growing fuels at home with biofuels. We had hydrogen fuel cells had come through. They were cost effective and reliable, and we had some other technologies that we can't even imagine right now. Let's say that we're ready to roll those out. Every new car on every block.

>> Begleiter: Magic happens in the next 10 years.

>> It still takes you 10 to 15 years to replace the fleet, because you can only replace, you know, cars at a certain rate. People only buy new cars at a certain rate, and then underlying that is a sort of transitional period. We still need fuel to sort of power the

transition. In other words, you still need a certain amount of oil, gasoline and diesel to run all those cars that are still of the old generation as you're replacing them, and what we're hoping is that OPEC even has that amount of oil, that transitional fuel, and there are questions now, I think, and they're being raised by, you know, some serious folks that OPEC may have trouble even supplying the transitional fuel if we wait too long.

>> Begleiter: Gentlemen, I'm afraid--I know we could discuss this forever, but we're out of time, I'm afraid, so, Paul Roberts, author of *The End of Oil*, thanks very much for being with us, and Vijay Vaitheeswaran, thank you as well, the author of *Power to the People: The Coming Energy Revolution: How Will It Form An Industry, Change Our Lives, and Maybe Even Save the Planet*. And thank you all as well for joining us on *Great Decisions 2006*. I'm Ralph Begleiter.

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