

**CHALLENGES FACING DOMESTIC OIL AND
GAS DEVELOPMENT: REVIEW OF BUREAU
OF LAND MANAGEMENT/U.S. FOREST
SERVICE BAN ON HORIZONTAL DRILLING
ON FEDERAL LANDS**

JOINT OVERSIGHT HEARING

BEFORE THE

SUBCOMMITTEE ON ENERGY AND
MINERAL RESOURCES

OF THE

COMMITTEE ON NATURAL RESOURCES

JOINT WITH THE

SUBCOMMITTEE ON CONSERVATION, ENERGY,
AND FORESTRY

OF THE

COMMITTEE ON AGRICULTURE
U.S. HOUSE OF REPRESENTATIVES

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Friday, July 8, 2011

U.S. House of Representatives

**Subcommittee on Energy and Mineral Resources,
Committee on Natural Resources, joint with the
Subcommittee on Conservation, Energy, and Forestry,
Committee on Agriculture
Washington, D.C.**

The Subcommittees met, pursuant to call, at 10:03 a.m. in Room 1324, Longworth House Office Building, Hon. Doug Lamborn [Chairman of the Subcommittee on Energy and Mineral Resources] presiding.

Present from Subcommittee on Energy and Mineral Resources: Representatives Lamborn, Fleming, Thompson, Rivera, Duncan, Flores, Fleischmann, Holt, Sarbanes and Markey (ex officio).

Present from Subcommittee on Conservation, Energy, and Forestry: Representatives Thompson, Goodlatte, Stutzman, Tipton, Southerland, Hultgren, Holden, Costa and Pingree.

Mr. LAMBORN. The Subcommittee hearing will come to order. The Chairman notes the presence of a quorum, which under Natural Resources Committee Rule 3(e) is two Members.

The Natural Resources Subcommittee on Energy and Mineral Resources and the Agriculture Subcommittee on Conservation, Energy, and Forestry are meeting today for a joint oversight hearing to hear testimony on “Challenges Facing Domestic Oil and Gas Development: Review of Bureau of Land Management/U.S. Forest Service Ban on Horizontal Drilling on Federal Lands.”

Under Natural Resources Committee Rule 4(f), opening statements are limited to the Chairman and Ranking Member of the Subcommittee. In addition, opening statements will be offered today by the Chairman and Ranking Member of the Agriculture Subcommittee and, should they wish to participate, the full committee Chairmen and Ranking Members of both committees.

In addition, I ask unanimous consent to include any other Members’ opening statements in the hearing record if submitted to the clerk by close of business today. Hearing no objection, so ordered.

I now recognize myself for five minutes for an opening statement.

**STATEMENT OF THE HONORABLE DOUG LAMBORN, A
REPRESENTATIVE IN CONGRESS FROM THE STATE OF
COLORADO**

Mr. LAMBORN. Today the Subcommittee is meeting to review the future of oil and gas development on Federal lands in light of Administration proposals to enact complete bans on horizontal drilling on Federal lands.

Earlier this year, the U.S. Forest Service of George Washington National Forest released a forest plan that had the Administration's preferred alternative as a ban on horizontal drilling on more than one million acres of Federal mineral estate. This plan as proposed by the Administration would essentially close the entire resource to energy development, eliminate a key priority in the multiple-use mission of Forest Service lands, and further erode our efforts to generate domestic energy security.

While efforts are proposed by the Forest Service to close these acres to domestic development of our own natural gas, the Cove Point LNG terminal operated by Dominion purchased nearly nine million cubic feet of Norwegian natural gas just this year. Let me repeat that. While our Forest Service is working to close our American lands to all drilling, we are importing natural gas from Norway to meet the domestic needs of Virginia and Maryland.

While the Forest Service is pursuing this ban on fracturing and horizontal drilling, BLM is in the process of holding hearings in the West to review the policies for the use of fracturing on Federal lands. Hydraulic fracturing. BLM Director Abbey was quoted earlier this year saying, "We have not seen evidence of any adverse effects as a result of the use of the chemicals that are part of that fracking technology."

This is important because a 2009 BLM instruction memorandum says that, "Application of directional/horizontal drilling technology is increasing. The BLM strongly supports this environmental best management practice as a means of providing substantial reductions in surface disturbance and overall impacts from oil and gas development."

BLM says horizontal drilling is an environmental best management practice and there is no evidence of any adverse effects, and yet the policy of this Administration now appears to be an outright ban starting with 1.1 million acres in Virginia.

The key questions for the committee today are: How did this policy proposal from the Forest Service reach this point? How did our land managers determine that the best policy is an outright ban on development, and what does this portend for the future?

Americans are desperate for new jobs, and today's jobs report says that our economy continues to struggle with only 18,000 new jobs created in June. That is why it makes so little sense to ban domestic development here while we continue a dependence in the case of Virginia and Maryland on Norwegian natural gas.

The Forest Service, as a custodian of our lands, has an obligation to work with a multiple-use mission to serve the people of Virginia and the United States by promoting the conservation of our resources, which undeniably should include the development of appropriate oil and gas resources on Federal lands.

I look forward to hearing from our witnesses today.

[The prepared statement of Mr. Lamborn follows:]

**Statement of The Honorable Doug Lamborn, Chairman,
Subcommittee on Energy and Mineral Resources**

Today the Subcommittee is meeting to review the future of oil and gas development on federal lands in light of Administration proposals to enact complete bans on horizontal drilling on federal lands.

Earlier this year, the U.S. Forest Service George Washington National Forest released a forest plan that had the Administration's preferred alternative as a ban on horizontal drilling on more than 1 million acres of federal mineral estate. This plan as proposed by the Administration would essentially close the entire resource to energy development, eliminate a key priority in the multiple-use mission of Forest Service lands, and further erode our efforts to generate domestic energy security.

While efforts are proposed by the Forest Service to close these acres to domestic development of our own natural gas, the Cove Point LNG terminal operated by Dominion purchased nearly 9 million cubic feet of Norwegian natural gas THIS YEAR. Let me repeat that, while our Forest Service is working to close our lands to all drilling, we are importing natural gas from Norway to meet the domestic needs of Virginia and Maryland.

While the Forest Service is pursuing a ban on fracturing and horizontal drilling, BLM is in the process of holding hearings in the West to review the policies for the use of fracturing on federal lands. BLM Director Abbey was quoted earlier this year saying, "We have not seen evidence of any adverse effects as a result of the use of the chemicals that are a part of that fracking technology."

This is important because a 2009 BLM instruction memorandum says: the "Application of directional/horizontal drilling technology is increasing. The BLM strongly supports this environmental Best Management Practice as a means of providing substantial reductions in surface disturbance and overall impacts from oil and gas development."

BLM says horizontal drilling is an "environmental Best Management Practice" and there is "no evidence of any adverse effects", and yet the policy of this Administration now appears to be an outright ban starting with 1.1 million acres in Virginia.

The key questions for the Committee today is how did this policy proposal from the Forest Service reach this point? How did our land managers determine that the best policy is an outright ban on development and what does this portend for the future?

Americans are desperate for new jobs and it makes little sense to ban domestic development here, while we continue a dependence on Norwegian natural gas. The Forest Service as a custodian of our lands has an obligation to work with a multiple-use mission, to serve the people of Virginia and the United States by promoting the conservation of our resources, which undeniably includes the development of appropriate oil and gas resources on Forest Lands.

I look forward to hearing from our witnesses today.

Mr. LAMBORN. And I now recognize the Ranking Member, Representative Holt of New Jersey, for five minutes for his opening statement.

Mr. HOLT. Thank you. And will the Chair and Ranking Member of the Agriculture Subcommittee also get comments?

Mr. LAMBORN. Absolutely. Absolutely.

Mr. HOLT. Good. Thank you.

STATEMENT OF THE HONORABLE RUSH D. HOLT, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY

Mr. HOLT. Thank you, Mr. Chairman. According to the title of today's hearing, there is a ban on horizontal drilling on Federal lands imposed by this Administration. Not true. Unfortunately, once again this is a hearing title which amounts to a broad and misleading generalization, another case of blowing an issue far out of proportion to score what seem to be political or ideological points.

In fact, the so-called ban in question is actually one of seven possible alternatives of a draft environmental impact statement issued as part of a required update of the land resource management plan for the George Washington National Forest. So let me reiterate. No decisions have been made on whether or not to allow horizontal drilling in the George Washington National Forest.

Now, it is appropriate that we have a hearing on it. All that has happened, though, is that the Forest Service is evaluating the environmental impacts of a number of alternatives as required by law, and they should be looking at these alternatives and we should be looking at them too.

None of the alternatives discussed in the EIS would change the existing practice of allowing traditional vertical oil and gas drilling in George Washington Forest for the—I forget how many—acres that are already under lease. Twelve thousand acres are already under lease. Furthermore, none of the alternatives, it appears, are going to—well, we will look at those alternatives.

Horizontal drilling is commonly used in association with hydraulic fracturing, and recent investigations have raised questions about potential water quality hazards associated with fracking. There is currently a study of potential effects being conducted by the Environmental Protection Agency.

The Counties of Rockingham, Augusta and Shenandoah, Virginia, three of the largest agricultural counties in the State, have expressed their opposition to allowing horizontal drilling in the National Forest because of concerns about water quality. The Cities of Harrisonburg and Staunton, those cities have passed similar resolutions of opposition.

To underscore the importance of being cautious about moving forward with hydraulic fracturing in this area, the George Washington National Forest protects a number of river basins, including the Potomac River, that provides drinking water for us, you here in Washington, D.C.

Given the local concerns and the unanswered questions, the Forest Service I believe is acting responsibly with their proposed EIS and the procedure associated with it while we wait for the facts to be assembled, which is the point I want to make. I mean, even if the Forest Service were eventually to decide to prohibit horizontal drilling in the George Washington Forest, it should be based on facts, and we know it would not be a permanent ban.

The Forest Service has made it clear that if natural gas can be accessed in nearby areas on private lands without adverse impacts to water quality the Forest Service should consider and reconsider the issue. But banned or permitted, the decision should be based on evidence. The distortion in the title of today's hearing makes me wonder how grounded in evidence this discussion will be.

Now, in the last 20 years natural gas development on Federal lands has more than doubled, from 1.2 trillion cubic feet 20 years ago to about 3 trillion cubic feet last year. Moreover, according to the Bureau of Land Management, 90 percent of the new natural gas wells on public lands employ hydraulic fracturing. So overall, U.S. natural gas production is at its highest level ever.

You know, the plans for terminals to import liquified natural gas are being turned around because it is likely that there will be for

as far as we can see export of natural gas. So those are the facts as I see them. I hope that we will restrict this hearing to, wherever possible, evidence and facts.

I thank the Chairman.

[The prepared statement of Mr. Holt follows:]

**Statement of The Honorable Rush D. Holt, Ranking Member,
Subcommittee on Energy and Mineral Resources**

Thank you Mr. Chairman.

According to the title of today's hearing, there is a ban on horizontal drilling on federal lands imposed by the Administration. Unfortunately, once again, this is a hearing title which amounts to a broad and misleading generalization.

In fact, the "ban" in question is actually only one of seven possible alternatives in a *draft* Environmental Impact Statement (EIS) issued as part of a required update to the Land and Resource Management Plan for the George Washington National Forest. Let me just reiterate that—No decisions have yet been made on whether or not to allow horizontal drilling in the George Washington National Forest. All that has happened is that the Forest Service is evaluating the environmental impacts of a number of alternatives as required by law. Furthermore, **none** of the alternatives discussed in the EIS would change the existing practice of allowing traditional, vertical oil and gas drilling in the George Washington Forest. It appears though, that the oil and gas industry is not seeing the forest for the trees.

Horizontal drilling is commonly used in association with hydraulic fracturing. Recent investigations have raised questions about potential water quality hazards associated with fracking, and there currently is a study of potential effects being conducted by the Environmental Protection Agency. The Counties of Rockingham, Augusta, and Shenandoah, Virginia—three of the largest agricultural counties in the state—have expressed their opposition to allowing horizontal drilling in the National Forest because of concerns about harm to water quality. The City of Harrisonburg and Staunton have also passed similar resolutions of opposition.

And to underscore the importance of being cautious about moving forward with hydraulic fracturing in this area, the George Washington National Forest protects a number of river basins, including the Potomac River that provides the drinking water supply for Washington, D.C. Given the local concerns and the unanswered questions, the Forest Service is acting responsibly with their proposed EIS while we wait for the facts to come in.

Even if the Forest Service were eventually to decide to prohibit horizontal drilling in the George Washington Forest, it would not be a permanent ban. The Forest Service has made it clear that if natural gas can be accessed in nearby areas on private lands without adverse impacts to water quality, the Service could reconsider the issue.

George Washington is famously quoted as saying, "I cannot tell a lie." I cannot let stand the accusation that the Obama Administration is somehow banning horizontal drilling on public lands based on what is happening in the George Washington National Forest. That could not be further from the truth.

In the last 20 years, natural gas development on federal lands has more than doubled, from 1.2 trillion cubic feet in 1991 to nearly 3 trillion cubic feet in 2010. Moreover, according to the Bureau of Land Management, 90 percent of new natural gas wells on public lands employ hydraulic fracturing. Overall, U.S. natural gas production is at its highest level ever. Those are the facts. And that is the truth.

I yield back.

Mr. LAMBORN. Thank you.

I now recognize the gentleman from Pennsylvania, a Member of this Subcommittee and also Chairman of the Subcommittee on Conservation, Energy, and Forestry on the Agriculture Committee, Mr. Thompson, for five minutes for his opening statement.

**STATEMENT OF THE HONORABLE GLENN THOMPSON, A
REPRESENTATIVE IN CONGRESS FROM THE COMMON-
WEALTH OF PENNSYLVANIA**

Mr. THOMPSON. Thank you, Chairman Lamborn, Ranking Members Holt and Holden. I appreciate your help and interest in holding this important hearing.

Since its inception, the National Forest System has been intended for multiple uses. This includes timber harvesting, recreation tourism and, yes, mineral extraction such as oil, gas and coal. For an example, I don't have to look any further than the Allegheny National Forest, which is in the 5th District of Pennsylvania, which I am privileged to represent.

The world's oil industry was born there 151 years ago with Drake Well and since its founding 64 years later in 1923, oil and gas production has continued in the nearby Allegheny National Forest. Some will have you believe that natural resource production, whether it is oil, gas, coal or timber, and environmental stewardship are mutually exclusive. Nothing could be farther from the truth.

And for those who think otherwise, I certainly invite them to Pennsylvania and the Allegheny National Forest to see for themselves. Through effective management practices, we have successfully produced oil, gas and timber for decades in the ANF while protecting our environment. In fact, we boast of having the finest hardwoods in the world, and because of their value I believe that the ANF is one of the few—perhaps the only—National Forest which actually makes money for the Forest Service.

Because we are blessed with abundant natural resources, Pennsylvania is again returning to its energy roots with the production of natural gas from the Marcellus shale field, which many experts feel was one of the largest gas plays in the world. The Allegheny National Forest is part of that play.

Through modern technology, especially horizontal drilling and hydraulic fracturing, production of oil and natural gas from our many shale formations are now possible. In plain English, no fracturing and no horizontal drilling means no natural gas or oil from shale and no energy security.

The Marcellus has brought us upwards of 100,000 new jobs to Pennsylvania alone, significant new tax revenues to the state, over \$200 million to build new roads, none of that with taxpayer dollars, and an unimaginable amount of natural gas to the country. After only four years of production and being less than 10 percent developed, the Marcellus is already providing the entire Northeast United States with over 10 percent of its natural gas.

Aside from the jobs, both direct and indirect, and the public and private revenue it creates, the shale boom is helping to stabilize the natural gas market in the United States. Access to affordable natural gas directly impacts consumers. Because of the production of shale gas brought by the horizontal drilling, our citizens can afford to heat their homes this winter, and the price of many goods produced from natural gas saw no increase in cost because of gas prices.

Natural gas, which sold four years ago for a record price of over \$13 per thousand cubic feet, has been stabilized to around \$4.50.

Dow Chemical and other petrochemical companies were set to move offshore just a few years ago because of high and unsustainable natural gas prices in the United States. Fortunately, because of our ability to produce shale gas through horizontal drilling and hydrofracturing, instead of moving offshore, Dow is now planning to expand its operations in the United States. Jobs.

Make no mistake. Our affordable and predictable natural gas prices are a direct result of our ability to produce it through horizontal drilling and hydrofracturing. Without a doubt, development will have its challenges, but I am convinced that we can meet these challenges and do it effectively as we have for decades.

Knowing of our need for affordable and reliable energy, which we are blessed with in this country, I am extremely concerned about the Forest Service placing a moratorium on applications for permits to drill any “horizontal well and associated hydraulic fracturing.” Not only does this undermine the Service’s mission of multiple use, but it also comes at a time when we are becoming more dependent on foreign sources and when world energy consumption continues to increase while the Federal Government continues to stymie development of our own natural resources.

Let us not forget that oil, gas, coal and all minerals and timber on Federal lands are not owned by the Forest Service, but by the citizens of our country, who would greatly benefit from their production. Any action to prevent their development should be based on sound science and fact, not philosophy and not political agendas.

The basic question I have regarding the decision by the Department of Agriculture and the Forest Service to place or propose a moratorium on even processing a permit to drill utilizing hydraulic drilling and hydraulic fracturing is when and why did they come to the conclusion that these processes should be banned in the forest? Did they perform environmental and economic analyses? Do they have any evidence that horizontal drilling and hydraulic fracturing are inherent threats to the forest, human health or our water supply?

It appears to me the Forest Service has no credible reason for moving in this direction. Now, I assume the Forest Service witnesses think otherwise and they will present logical, science-based facts for their proposed moratorium. I do want to thank our witnesses on this first panel, Director Abbey, Deputy Director Holtrop, Director Ferguson and Supervisor Hyzer. We look forward to your testimonies and the opportunity to have a productive dialogue.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Thompson follows:]

Statement of The Honorable GT Thompson, Chairman, Subcommittee on Conservation, Energy, and Forestry, Committee on Agriculture

Chairman Lamborn, Ranking Members Holt and Holden, I appreciate your help and interest in holding this important hearing.

Since its inception, the National Forest system has been intended for multiple-use. This includes timber harvesting, recreation, tourism—and yes, mineral extraction, such as oil, gas and coal.

For an example, I don’t have to look any further than the Allegheny National Forest (ANF) which is in the Fifth District of Pennsylvania, which I am privileged to represent.

The world's oil industry was born there in 152 years ago with Drake well. And since its founding 64 years later in 1923, oil and gas production has continued in the nearby Allegheny National Forest.

Some will have you believe that natural resource production—whether it is oil, gas, coal or timber—and environmental stewardship are mutually exclusive. Nothing could be farther from the truth and for those who think otherwise, I invite them to Pennsylvania and the Allegheny National Forest to see for themselves.

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Not only does this undermine the Service's mission of multiple-use but it also comes at a time when we are becoming more dependent on foreign sources and when world energy consumption continues to increase, while the Federal government continues to stymie development of our own natural resources.

Let's not forget that oil, gas, coal, all minerals and timber on federal lands are not owned by the Forest Service but by the citizens of our country who would greatly benefit from their production.

Any action to prevent that development should be based on sound science and fact—not philosophy or political agendas.

The basic question I have regarding the decision by the Department of Agriculture and Forest Service to place a moratorium on even processing a permit to drill utilizing horizontal drilling and hydraulic fracturing is when and why did they come to the conclusion that these processes should be banned in the forest?

Did they perform environmental and economic analyses? Do they have any evidence that horizontal drilling and hydraulic fracturing are inherent threats to the forests, human health or our water supply?

It appears to me that the Forest Service has no credible reason for moving in this direction.

I assume the Forest Service witnesses think otherwise and they will present logical, science based facts for their moratorium.

I want to thank our witnesses—Director Abbey, Deputy Chief Holtrop, Director Ferguson and Supervisor Hyzer. We look forward to your testimonies and the opportunity to have a productive dialogue.

Mr. LAMBORN. Thank you.

I now recognize the gentleman from Pennsylvania and the Ranking Member of the Subcommittee on Conservation, Energy, and Forestry, Mr. Holden, for five minutes for his opening statement.

STATEMENT OF THE HONORABLE TIM HOLDEN, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF PENNSYLVANIA

Mr. HOLDEN. Thank you, Mr. Chairman. I would like to thank our witnesses and guests for being here this morning.

In times of global economic instability, it is important that the United States continue to move toward a secure energy future that will have long-lasting economic benefits. This must include safe and responsible domestic oil and natural gas production as part of a broad energy portfolio.

While there is currently no ban or moratorium on horizontal drilling on Federal lands, a draft management plan by the Forest Service proposes to not allow drilling on a parcel of land in the George Washington National Forest in Virginia and West Virginia. Following normal process for issuance of any forest management plan, this draft proposal is currently available for public comment and still open for revision.

Drilling occurs on public lands every day, and over five million acres of National Forest lands are currently leased for oil, gas, coal and phosphate mining. Both the Forest Service and the Bureau of Land Management have responsibilities related to the approval of oil and gas leases.

Though the Forest Service has the option to object and veto a plan for a forest plan, more than 7,200 applications for permits to drill on public lands and Indian lands are expected to be processed this year by BLM, up from approximately 5,000 in 2010. America's public lands and their resources contributed more than \$112 billion to the U.S. economy and supported more than a half million jobs in 2010, the bulk of which came from the management of mineral resources and recreation.

The public lands managed by the BLM and the Forest Service are some of the nation's greatest assets, both environmentally and economically. I am hopeful that these agencies realize the economic importance of U.S. energy production.

The natural gas industry has safely and responsibly been operating on taxpayer owned lands for years. This responsible production of domestic fuel creates tens of thousands of jobs, raises more revenue each year for American taxpayers than it spends and helps stimulate investment and innovation by businesses.

I look forward to today's expert testimony and the opportunity to listen, learn and question those on the forefront of this important issue.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Holden follows:]

**Statement of The Honorable Tim Holden, Ranking Member,
Subcommittee on Conservation, Energy, and Forestry, Committee on
Agriculture**

I would like to thank our witnesses and guests for coming today. In times of global economic instability, it is important that the United States continues to move toward a secure energy future that will have long-lasting economic benefits. This must include safe and responsible domestic oil and natural gas production as part of a broad energy portfolio.

While there is currently no ban or moratorium of horizontal drilling on federal lands, a draft management plan by the Forest Service proposes to not allow drilling on a parcel of land in the George Washington National Forest in Virginia and West Virginia. Following normal process for issuance of any forest management plan, this draft proposal is currently available for public comment and still open for revision.

Drilling occurs on public lands every day and over 5 million acres of National Forest Lands are currently leased for oil, gas, coal, and phosphate mining.

Both the Forest Service and the Bureau of Land Management have responsibilities related to the approval of oil and gas leases. Though the Forest Service has the option to object and veto a plan for forestland, more than 7,200 applications for permit to drill on public lands and Indian lands are expected to be processed this year by BLM—up from approximately 5,000 in 2010.

America's public lands and their resources contributed more than \$112 billion to the U.S. economy and supported more than a half-million American jobs in 2010, the bulk of which came from the management of mineral resources and recreation. The public lands managed by BLM and the Forest Service are some of the nation's greatest assets both environmentally and economically.

I am hopeful that these agencies realize the economic importance of U.S. energy production. The natural gas industry has safely and responsibly been operating on taxpayer-owned lands for years. This responsible production of domestic fuel has created tens of thousands of jobs, raises more revenue each year for American taxpayers than it spends and helps stimulate investment and innovation by businesses.

I look forward to today's expert testimony and the opportunity to listen, learn and question those on the forefront of this important issue.

Mr. LAMBORN. Thank you.

As each of the Chairmen and Ranking Members of the full committees appear, they will be given an opportunity to make an opening statement.

I would now recognize the gentleman from Massachusetts, the Ranking Member of the Committee on Natural Resources, Mr. Markey, for five minutes for an opening statement.

**STATEMENT OF THE HONORABLE EDWARD J. MARKEY, A
REPRESENTATIVE IN CONGRESS FROM THE STATE OF
MASSACHUSETTS**

Mr. MARKEY. Thank you, Mr. Chairman, very much. Recent advancements in natural gas drilling technologies have unlocked natural gas supplies in shale and other unconventional formations across the country, leading to a significant expansion of natural gas production, including on BLM-managed public lands. Currently 90 percent of all new wells on public lands are hydraulically fractured.

To explain the hydraulic fracturing process, the Talisman Energy Corporation came up with a cartoon coloring book that follows the friendly Frackasaurus named Talisman Terry through the natural gas drilling process. The lovable dinosaur playfully promotes the benefits of natural gas and paints a picture of a magical world filled with smiling rocks and grinning animals. The problem is that unless you are a Frackasaurus named Talisman Terry, this world does not exist.

In fact, the word talisman means lucky charm, which is what everyone else will need if you listen to Talisman Terry, because in

the absence of real safety procedures put in place, everyone will need a talisman, a lucky charm, an object with magical powers. I understand why you would name your corporation that, but I don't think we should base our public health and safety laws upon that premise.

For communities around this country, the expansion of natural gas drilling and hydraulic fracturing has meant contamination of water supplies, loss of property value, deteriorating health conditions, dead livestock and destruction of pristine forests and agricultural lands.

A recent series of investigative reports in *The New York Times* have highlighted some of the potential risks of natural gas drilling and inconsistent efforts to regulate this booming industry. For example, *The Times* reported that wastewater from hydraulic fractured wells is often contaminated with toxic heavy metals, highly corrosive salts, cancer causing chemicals, such as benzene and radioactive elements.

A large amount of this wastewater is disposed in municipal sewerage treatment plants that are not capable of removing the contaminants. This wastewater discharge can also enter into local waterways, and the equipment failure can cause tens of thousands of gallons of chemical wastewater to spew out of the well and into nearby creeks.

These fluids are so toxic that a study by Forest Service researchers published earlier this week found that when fracturing fluids were spilled in the forest they killed all plants and trees in the area. Without proper oversight, the disposal of drilling wastewater poses threats to agricultural lands, aquatic life and human health, particularly when public drinking water systems rely on waterways where waste is being discharged.

To further cloud the problem, the oil and gas industry enjoy exemptions or exclusions from key parts of at least seven of the 15 major Federal environmental laws designed to protect public health, air and water, including the Safe Drinking Water Act and the Clean Water Act. Many of these companies have also refused to disclose the contents of their fracturing fluids.

A century ago when Congressman Weeks of Massachusetts guided into law the landmark legislation that allowed the lands that make up the George Washington National Forest to be purchased from private individuals, this protected forestland and habitat for hundreds of animals, which drives tourism for the local economy and provides a safe source of drinking water to almost 300,000 local residents. Even more so, although this forest is located in Virginia, it protects the source of water that feeds our faucets right here in Washington, D.C.

While horizontal drilling has never occurred in the George Washington National Forest, expansion of these technologies without adequate safety and oversight could threaten natural resources and has the potential to turn stretches of forest into lifeless dunes, an environment that would only support the imaginary Terry the Frackasaurus.

While the discovery of new gas resources creates a domestic energy and economic opportunity and we should try to capture that economic opportunity, we must also ensure that this exploration

and production of natural gas is done safely and responsibly and leaves us with a forest full of trees for another century and not a chemical wasteland.

I thank you, Mr. Chairman.

[The prepared statement of Mr. Markey follows:]

**Statement of The Honorable Edward J. Markey, Ranking Member,
Committee on Natural Resources**

Thank you Chairman Hastings.

Recent advancements in natural gas drilling technologies have unlocked natural gas supplies in shale and other unconventional formations across the country leading to a significant expansion of natural gas production, including on BLM-managed public lands. Currently 90% of all new wells on public lands are hydraulically fractured.

To explain the hydraulic fracturing process, Talisman Energy Corporation came up with a cartoon coloring book that follows the friendly FRACK-A-SAURUS named "Talisman Terry" through the natural gas drilling process. The loveable dinosaur playfully promotes the benefits of natural gas and paints a picture of a magical world filled with smiling rocks and grinning animals. The problem is that unless you are a "FRACK-A-SAURUS" named "Talisman Terry," this world doesn't exist. For communities around this country the expansion of natural gas drilling and hydraulic fracturing has meant contamination of water supplies, loss of property value, deteriorating health conditions, dead livestock, and destruction of pristine forest and agricultural lands.

A recent series of investigative reports in *The New York Times* have highlighted some of the potential risks of natural gas drilling and inconsistent efforts to regulate this booming industry.

For example, *The Times* reported that wastewater from hydraulic fractured wells is often contaminated with toxic heavy metals, highly corrosive salts, cancer causing chemicals such as benzene, and radioactive elements. A large amount of this wastewater is disposed in municipal sewage treatment plants that are not capable of removing the contaminants. This wastewater discharge can also enter into local waterways as was the case in Pennsylvania, 3 months ago, when equipment failure caused tens of thousands of gallons of chemical-laced water to spew out of the well and into a nearby creek.

These fluids are so toxic that a study by Forest Service researchers, published earlier this week, found that when fracturing fluids were spilled in the forest they killed all plants and trees in the area.

Without proper oversight, the disposal of drilling wastewater poses threats to agricultural lands, aquatic life and human health, particularly when public drinking water systems rely on waterways where waste is being discharged.

To further cloud the problem, the oil and gas industry enjoy exemptions or exclusions from key parts of at least 7 of the 15 major federal environmental laws designed to protect public health, air and water, including the Safe Drinking Water Act and the Clean Water Act. Many of these companies have also refused to disclose the contents of their fracturing fluids.

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While horizontal drilling has never occurred in the George Washington National Forest expansion of these technologies without adequate safety and oversight could threaten natural resources and has the potential to turn stretches of forest into lifeless dunes—An environment that would only support the imaginary Terry the FRACK-A-SAURUS.

While the discovery of new gas resources creates a domestic energy and economic opportunity, we must ensure that this exploration and production for natural gas is done safely and responsibly and leaves us with a forest full of trees for another century and not a chemical wasteland.

Mr. LAMBORN. OK. Thank you.

We will now hear from our witnesses. I would like to invite forward The Honorable Bob Abbey, Director of the Bureau of Land Management; The Honorable Joel Holtrop, Deputy Chief of the U.S. Forest Service, accompanied by Mr. Tony Ferguson, Director of Minerals and Geology Management, USDA Forest Service, and Ms. Maureen Hyzer, Forest Supervisor of the George Washington and Jefferson National Forests.

Thank you all for being here. Like all our witnesses, your written testimony will appear in full in the hearing record, so I ask that you keep your oral statements to five minutes as outlined in our invitation letter to you and under Committee Rule 4(a). Our microphones are not automatic, so you need to turn them on when you are ready to begin talking.

I also want to explain how the timing lights work. When you begin, the clerk will start the clock and a green light will appear. After four minutes a yellow light will appear, and after five minutes the red light comes on. At that point I would ask you to conclude.

Mr. Abbey, you may begin. Thank you all for being here.

STATEMENT OF THE HONORABLE BOB ABBEY, DIRECTOR, BUREAU OF LAND MANAGEMENT, U.S. DEPARTMENT OF THE INTERIOR

Mr. ABBEY. Thank you. Chairman and Members of the Subcommittee, once again it is my honor to appear before the Members here to talk about the BLM's role in the responsible development of oil and gas resources from our public lands and the Federal on-shore mineral estate.

Because there is no BLM ban on directional drilling, my testimony today is intended to provide an overview of our oil and gas leasing program and policies, which include implementing leasing reforms, planning for development in the National Petroleum Reserve in Alaska, continuing timely processing of drilling permits, improving inspection, enforcement and production accountability and reviewing hydraulic fracturing policies and practices.

Secretary of the Interior Salazar has emphasized that as we move toward the new energy frontier, conventional energy resources from BLM-managed public lands will continue to play a critical role in leading the nation's energy needs. Facilitating the efficient, responsible development of domestic oil and gas resources is part of this Administration's broad energy strategy that will protect consumers, help reduce our dependence on foreign oil, create well paying jobs and provide revenues and economic activity to communities.

In Fiscal Year 2010, more than 114 million barrels of oil were produced from the BLM-managed mineral estate, the most since 1997. Also in 2010, the nearly three trillion cubic feet of natural gas produced from public lands made it the second most productive year on record. Federal oil and gas royalties in 2010 exceeded \$2.5 billion, half of which were paid directly to the states where the development occurred.

Leasing reforms that the Bureau of Land Management put in place in May of 2010 established an orderly, open and environmentally sound process for developing oil and gas resources on pub-

lic lands. These reforms focused on making oil and gas leasing more predictable, increasing certainty for stakeholders, including the industry, and restoring needed balance with comprehensive, up-front analysis added to the process.

In the 23 million acre National Petroleum Reserve in Alaska, the BLM has an active leasing program underway. Over 1.6 million acres are currently under lease in that area. The BLM has offered six lease sales in the NPRA over the last 12 years. We plan to hold a lease sale in December of 2011 and each year thereafter.

Through careful planning, the BLM's leasing program in the National Petroleum Reserve in Alaska ensures that exploration and development of its oil and natural gas resource is done in a manner that protects wildlife and habitat and honors the subsistence values of Alaskan natives and rural residents. The BLM continues processing applications from industry for permits to drill on Federal and Indian lands. So far this year, the BLM received over 2,600 applications for permits to drill and processed over 2,800.

We recognize that oil and gas development is a market driven activity. It is industry's choice as to when or even whether to start drilling a well within the two-year period after an application for drilling has been approved. As of June 1, industry has not yet started drilling on nearly 7,100 applications for permits to drill that have already been approved by the Bureau of Land Management.

To improve inspection, enforcement and production accountability, we have developed a strong technical certification program for all of our oil and gas field inspectors. Our personnel completed over 31,000 inspections in Fiscal Year 2010. These inspections ensure that lessees meet environmental and safety requirements and that the reported oil and gas volumes match the actual production on the ground.

Recently we have seen increasing interest in the use of hydraulic fracturing techniques to stimulate natural gas production. The BLM is proactively engaging the public, states and industry on this issue. In April of 2011, the BLM held a series of regional public forums on the use of hydraulic fracturing. Over 600 members of the public participated in these forums.

Consistent with the framework presented by the President's *Blueprint for a Secure Energy Future*, the BLM is working to ensure that the potential oil and natural gas development on our public lands is realized.

Mr. Chairman, again it is a pleasure for me to be here, and I would be happy to answer any questions that the Members might have.

[The prepared statement of Mr. Abbey follows:]

**Statement of Robert Abbey, Director, Bureau of Land Management,
U.S. Department of the Interior**

Mr. Chairmen and Members of the Subcommittees, thank you for the opportunity to appear here today to discuss the Bureau of Land Management's (BLM) role in the Administration's efforts to facilitate the responsible development of oil and gas resources from our public lands and Federal onshore mineral estate. With respect to the title of this oversight hearing, I note for the record that the BLM has no ban on directional drilling and, as a matter of policy, the Bureau generally encourages its use where appropriate to protect sensitive surface resources. Because there is no

BLM ban on directional drilling, my testimony will provide an overview of the BLM's oil and gas program and policies.

The BLM, an agency of the U.S. Department of the Interior (Department), is responsible for protecting the resources and managing the uses of our nation's public lands, which are located primarily in 12 western states, including Alaska. The BLM administers more land—over 245 million surface acres—than any other Federal agency. The BLM manages approximately 700 million acres of onshore subsurface mineral estate throughout the Nation, and provides Indian fiduciary services. We work closely with surface management agencies in the management of this subsurface mineral estate.

Background

Secretary Salazar has emphasized that as we move toward the new energy frontier, the development of conventional energy resources from BLM-managed public lands will continue to play a critical role in meeting the Nation's energy needs. The BLM strives to achieve a balance between oil and gas production and protection of the environment. Facilitating the efficient, responsible development of domestic oil and gas resources is part of the Administration's broad energy strategy that will protect consumers and help reduce our dependence on foreign oil. Well-paying jobs are often associated with oil and gas exploration and development, and provide needed revenues and economic activity to communities. In Fiscal Year (FY) 2010, onshore Federal oil and gas royalties exceeded \$2.5 billion, approximately half of which was paid directly to the states in which the development occurred.

The BLM is working diligently to fulfill its part in securing America's energy future. In addition to actively supporting the development of renewable energy resources, the BLM currently manages more than 40 million acres of onshore oil and gas leases. In FY 2010, onshore oil production from public lands increased by 5 million barrels from the previous fiscal year as more than 114 million barrels of oil were produced from the BLM-managed mineral estate—the most since FY 1997. Meanwhile, the nearly 3 trillion cubic feet of natural gas produced from public lands made 2010 the second-most productive year of natural gas production on record. In 2010, conventional energy development from public lands produced 14.1 percent of the Nation's natural gas, and 5.7 percent of its domestically produced oil.

In achieving these production milestones, the BLM is working on a variety of fronts to ensure that development is done efficiently and responsibly—including implementing leasing reforms; carefully planning for development in the National Petroleum Reserve in Alaska (NPR-A); continuing to process drilling permits in a timely fashion; improving inspection, enforcement, and production accountability; pursuing royalty reforms; and reviewing hydraulic fracturing policies and practices.

Leasing Reforms

Current and future lease sales are benefitting from much-needed reforms that the BLM put in place in May of 2010. In the decade between 1998 and 2009, the percentage of leases protested jumped from 1 percent to 49 percent. The BLM was investing vast amounts of staff time and attention in defending time-consuming and costly lawsuits, and revisiting the leasing process after receiving direction from the courts. The result of these challenges was judicial restraints on development, job loss, and diminished access to energy resources.

In our leasing reforms, the BLM decided to take a front-loaded approach, offering an increased opportunity for public participation and a more thorough environmental review process and documentation. The reforms enhance the BLM's ability to resolve protests prior to lease sales. Using these methodologies in Wyoming, the BLM in the first quarter of FY 2011 was able to resolve many protested leases and released monies held in escrow due to the protests.

The BLM reforms established a more orderly, open, and environmentally sound process for developing oil and gas resources on public lands. They focus on making oil and gas leasing more predictable, increasing certainty for stakeholders including industry, and restoring needed balance with comprehensive up front analysis added to the development process. These reforms require adequate planning and analysis to identify potential areas where the leasing would not compromise the BLM's multiple-use land management mission, and include:

- Engaging the public in the development of Master Leasing Plans prior to leasing in certain areas where resource conflicts are known to exist and where significant new oil and gas development is anticipated. The intent is to fully consider other important natural resource values before making a decision on leasing and development in an area;
- Ensuring potential lease sales are fully coordinated both internally and externally, including public participation, and interdisciplinary review of available

information, as well as on-site visits to parcels prior to leasing when necessary to supplement or validate existing data; and

- Requiring an “extraordinary circumstances” review screen before applying the categorical exclusions in the Energy Policy Act of 2005 to oil and gas drilling activities on BLM lands. This, as well as the other reforms identified above, are helping to provide increased rigor on the front end of the leasing process so that leases will be better able to withstand outside scrutiny—ultimately making the development process more efficient.

National Petroleum Reserve in Alaska (NPR-A)

Through a careful public planning process, the BLM has in place an active leasing program in the National Petroleum Reserve in Alaska (NPR-A)—a nearly 23 million-acre area on the north slope of Alaska. In 2010, the U.S. Geological Survey estimated that 896 million barrels of conventional, undiscovered oil and 53 trillion cubic feet of conventional, undiscovered gas were within NPR-A and adjacent State waters. The BLM has offered lease sales in the NPR-A in 1999, 2002, 2004, 2006, 2008, and 2010, and over 1.6 million acres are currently under lease in the area. In December 2011, the BLM plans to conduct a lease sale of additional tracts, and expects to hold a lease sale in 2012 and each year thereafter. The BLM’s leasing program in the NPR-A ensures that safe and responsible exploration and development of domestic oil and natural gas resources can be done in a manner that also protects wildlife and habitat, and honors the subsistence values of Alaska Natives and rural residents. Further, the Bureau is engaged in a planning process for the entire NPR-A that should help identify long-term leasing and infrastructure goals (to support both onshore and offshore oil and gas development) as well as resource conservation goals.

Permitting

Prior to the drilling of a well, BLM is required to process applications for permit to drill (APDs). The BLM processed over 5,200 such permits in Fiscal Year 2010. As of June 1, 2011, the BLM has received 2,688 APDs (Federal and Indian lands), and has processed 2,885 APDs (Federal and Indian lands). About 7,080 APDs on BLM and Indian lands have been approved by BLM, but not yet drilled by industry. Historically, BLM’s experience has been that that demand for drilling permits is a function of market conditions and national energy consumption, and we expect the numbers of APDs received to increase as the economy continues to improve.

Inspection, Enforcement, & Production Accountability

Of paramount importance, the BLM is committed to ensuring oil and gas production is carried out in a responsible manner. We continue to work to strengthen our oil and gas inspection, enforcement, and production accountability program. As part of this effort, the BLM has developed a strong technical certification program for all of our oil and gas field inspectors, who completed over 31,000 inspections in FY 2010. These inspections ensure that lessees meet important environmental and safety requirements, and that the reported oil and gas volumes match the actual production on-the-ground. The BLM also has begun using a risk-based inspection strategy for production inspections, inspecting first those leases that present the highest risk according to the strategy. The BLM plans to expand this risk-based strategy to the other types of inspections it performs with the goal of maximizing the efficient use of inspection staff to meet inspection goals and requirements.

Royalty Reform

The Administration believes that American taxpayers should receive a fair return on the development of energy resources on their public lands. A 2008 Government Accountability Office (GAO) report suggests that taxpayers could be receiving a better return from Federal oil and gas resources in some areas. Subsequent GAO reports have reiterated this conclusion. The BLM and the Bureau of Ocean Energy Management, Regulation, and Enforcement are cooperating to pursue an international study of approaches to oil and gas revenue collection. The study should be completed and published later this year.

Hydraulic Fracturing

The use of hydraulic fracturing techniques to stimulate natural gas production on Federal lands has been the subject of increasing interest in the past few years. The Department has been monitoring the developments around hydraulic fracturing and proactively engaging the public, states, and industry on this important topic.

As part of the Department’s proactive efforts to ensure that oil and gas development is taking place on public lands in a responsible and environmentally sustainable manner, the BLM held a series of regional public forums in April 2011 to dis-

cuss the use of hydraulic fracturing. The sessions were held in North Dakota, Colorado, and Arkansas—states that have experienced significant increases in natural gas development on Federal lands or on leases issued by the BLM.

The forums provided attendees with an introduction to the hydraulic fracturing process and the relevant BLM regulatory authorities. Attendees also heard presentations from state oil and gas regulators, state water regulators, oil and gas industry representatives, environmental organizations, sportsmen's groups, landowner groups, tribal representatives, and academics. Over 600 members of the public attended and participated in the forums. Issues raised by members of the public and panel members included best management practices, disclosure of the chemicals used in hydraulic fracturing fluids, well construction and integrity, production wastewater management, and other techniques for protecting drinking water resources.

As you may know, other agencies are also actively engaged on this issue. Earlier this year, the Environmental Protection Agency (EPA) commenced a four-year Congressionally-mandated study of hydraulic fracturing. In addition, the Secretary of Energy's Advisory Board Subcommittee on Hydraulic Fracturing is currently developing initial recommendations on hydraulic fracturing, and the BLM looks forward to reviewing its recommendations.

Conclusion

Consistent with the framework presented by the President's *Blueprint for a Secure Energy Future*, the BLM is working to secure our energy future by ensuring the potential oil and natural gas development on our public lands is realized. We are pursuing the safe, responsible, and efficient development of these energy resources here at home.

The BLM is committed to encouraging responsible energy development on the public lands and to ensuring that the American people receive a fair return for the public's resources. We are mindful of our responsibility for stewardship of natural resources and public assets that generate substantial revenue from Federal onshore oil and gas royalties directed to the U.S. Treasury and to the states. Mr. Chairmen, thank you for the opportunity to testify on the BLM's oil and gas program policies and activities. I will be pleased to answer any questions you may have.

Mr. LAMBORN. Thank you for your testimony. We would like to now hear from the next witness, Mr. Holtrop.

STATEMENT OF THE HONORABLE JOEL HOLTROP, DEPUTY CHIEF, U.S. FOREST SERVICE; ACCOMPANIED BY TONY FERGUSON, DIRECTOR, MINERALS AND GEOLOGY MANAGEMENT, USDA FOREST SERVICE, AND MAUREEN HYZER, SUPERVISOR, GEORGE WASHINGTON AND JEFFERSON NATIONAL FORESTS

Mr. HOLTROP. Thank you for the opportunity to provide testimony today on challenges facing domestic oil and gas development. Accompanying me today are Tony Ferguson, our Director of Minerals and Geology Management, and Maureen Hyzer, Supervisor of the George Washington and Jefferson National Forests.

To begin, I want to be clear. The U.S. Forest Service has no policy, nor do we have any plans to develop any policy, to ban horizontal drilling and the associated hydraulic fracturing. I also want to emphasize that forest plans are place-based plans based on local community concerns which we take very seriously.

The Forest Service is committed to doing our part to contribute to the nation's energy goals, while at the same time protecting the landscapes and watersheds that are precious to so many. The Forest Service and the BLM work closely in managing and delivering the mineral and energy programs in the United States. The agencies follow congressionally authorized mandates that allow for the responsible development of domestic energy and mineral resources.

Generally speaking, the Forest Service manages the surface National Forest System lands while the BLM manages the subsurface. The BLM issues leases for exploration and development of energy minerals after receiving consent from the Forest Service for leasing those National Forest System lands.

The Forest Service bases its decision on whether to consent to leasing on guidance provided in our forest plans. Forest plans guide the management of National Forest System lands and are developed in an open process gathering input from local and state government, interest groups and private citizens. In the forest planning process, the agency strives to balance resource development with protecting the landscapes and watersheds that communities depend upon.

The current oil and gas production on National Forest System lands is sizable. 16.7 million barrels of oil and 194 million cubic feet of natural gas were produced in 2010 from almost 3,200 Federal wells on National Forest System lands. In addition, there are almost 12,800 additional wells located on National Forest System lands where the subsurface is privately owned, the majority of which are located on the Allegheny National Forest in Pennsylvania.

In Fiscal Year 2010, production from Federal wells alone generated an estimated \$361 million in payments to the U.S. Treasury. A large portion of this revenue is returned to states and counties. The Forest Service is committed to providing these energy resources and their benefits to the American people in a way that is consistent with our mission to safeguard the health, diversity and productivity of our nation's forests and grasslands.

We understand that some Members of the Subcommittees are concerned about the Draft Forest Plan for the George Washington National Forest in Northern Virginia and West Virginia that proposes several options for public comment. The preferred option provides for oil and gas leasing, but would prohibit horizontal drilling and associated hydraulic fracturing in certain areas of the forest. This draft plan includes several alternatives which would allow for horizontal drilling.

We will carefully consider all public comments prior to the regional forester making a final decision in the George Washington National Forest plan. The Forest Service is accepting comments on the draft Forest Plan through September 1. As with all our forest plans, this plan is place specific based on the particular circumstances of the George Washington National Forest and does not represent a broader policy with regard to hydraulic fracturing.

There are no Forest Service discussions or efforts underway to develop a national policy to ban horizontal drilling. On the contrary, the Administration believes that the recent technological advances that have allowed industry to access abundant reserves of natural gas, particularly from shale formations, provides enormous potential benefits to the country as long as it is done in a way that protects public health and the environment.

The Environmental Protection Agency is currently studying potential impacts to water resources from hydraulic fracturing, and a subcommittee of the Secretary of Energy Advisory Board is developing recommendations on practices and steps that can be taken to

improve the safety and environmental performance of shale extraction. The Forest Service will move forward to allow the safe and responsible development of domestic oil and gas resources consistent with the expert recommendations from these and other efforts.

Thank you for the opportunity to provide information about the oil and gas program on the National Forests and clarify the situation related to horizontal drilling and associated hydraulic fracturing. I look forward to answering any questions you may have.

[The prepared statement of Mr. Holtrop follows:]

**Statement of Joel Holtrop, Deputy Chief, National Forest System,
U.S. Forest Service, U.S. Department of Agriculture**

Chairman Lamborn, Chairman Thompson, Ranking Member Holden, Ranking Member Holt and members of the Subcommittees, thank you for the opportunity to provide testimony today on “Challenges Facing Domestic Oil and Gas Development: A Review of Bureau of Land Management/U.S. Forest Service Ban on Horizontal Drilling on Federal Lands.” I am Joel Holtrop, Deputy Chief of the National Forest System. Accompanying me today is Tony Ferguson, Director of Minerals and Geology Management and Maureen Hyzer, Supervisor of the George Washington and Jefferson National Forests.

To begin, I want to be clear, the U.S. Forest has no policy nor do we have any plans to develop any policy to ban horizontal drilling and the associated hydraulic fracturing. I also want to emphasize that Forest Plans are place based plans, based on local community concerns which we take very seriously.

We would like to first describe the role of the U.S. Forest Service in oil and gas leasing and operations on National Forest System (NFS) Lands, then provide the committees with an overall scope of the oil and gas program on the NFS lands, and finally directly address concerns regarding horizontal drilling which have prompted this hearing. The Forest Service is committed to doing our part to contribute to the nation’s energy goals while at the same time protecting the landscapes and watersheds that are precious to so many.

The Forest Service and the Bureau of Land Management (BLM) work closely in managing and delivering the mineral and energy program in the United States. The agencies follow Congressionally authorized mandates that allow for the responsible development of domestic energy and mineral resources. Generally speaking, the Forest Service manages the surface of National Forest System lands while the BLM manages the subsurface. The BLM issues leases for exploration and development of energy minerals after receiving consent from the Forest Service for leasing those NFS lands. The Forest Service bases its decision on whether to consent to leasing on guidance provided in our Forest Plans. Forest Plans guide the management of NFS lands and are developed in an open process, gathering input from local and state government, interest groups and private citizens. In the Forest Planning process, the agency strives to balance resource development with protecting the landscapes and watersheds that communities depend upon. Subsequently, when a request for an oil and gas drilling permit is received by BLM on NFS lands where leasing has been approved, the Forest Service and BLM coordinate the development of the conditions for issuing the permit, using their separate authorities for surface and subsurface management.

The current oil and gas production on NFS lands is sizeable. 16.7 million barrels of oil and 194 million cubic feet of natural gas were produced in 2010 from almost 3,200 “federal” wells on NFS lands (lands where the subsurface is part of the federal estate). In addition, there are almost 12,800 additional wells located on NFS lands where the subsurface is privately owned, the majority of which are located on the Allegheny National Forest in Pennsylvania. In fiscal year (FY) 2010, production from “federal wells” generated an estimated \$361 million in bonus and royalty payments to the U.S. Treasury. A large portion of this revenue will be returned to states and counties, specifically 25% of the revenue from Acquired Lands, 25% of the revenue from National Grasslands, and 50% of the revenue from Public Domain Lands will be returned to the states and counties. The Forest Service is committed to providing these energy resources and their benefits to the American people in a way that is consistent with our mission to safeguard the health, diversity and productivity of our nation’s forests and grasslands.

We understand that some members of the Subcommittees are concerned about direction in the draft Forest Plan for the George Washington National Forest (GWNF)

in western Virginia that proposes several options for public comment, one of which is a preferred option that provides for oil and gas leasing but would prohibit horizontal drilling and associated hydraulic fracturing in certain areas of the forest. Specifically, we understand that members of the Subcommittee have concerns regarding agency jurisdiction, potential impacts of drilling to resources such as groundwater, and decisions which would restrict the ability of the Forest Service to contribute to meeting the nation's energy demands.

This draft plan was developed through an open and collaborative process with a diversity of stakeholders, including local governments and private citizens. It includes several alternatives besides the draft plan, several of which would allow for horizontal drilling. We are currently working to clarify the roles of our respective agencies in oil and gas development and will carefully consider all public comments prior to making a final decision in the George Washington National Forest Plan. The Forest Service is accepting comments on the *Draft* Forest Plan through September 1, 2011. As I noted earlier, this plan is place-specific based on the particular circumstances of the GWNF, and does not represent a broader policy with regard to hydraulic fracturing. There are no Forest Service discussions or efforts underway to develop a national policy to *ban* horizontal drilling. On the contrary, the Administration believes that the recent technological advancements that have allowed industry to access abundant reserves of natural gas, particularly from shale formations, provides enormous potential benefits to the country, as long as it is done in a way that protects public health and the environment. The Environmental Protection Agency is currently studying potential impacts to water resources from hydraulic fracturing, and a subcommittee of the Secretary of Energy Advisory Board is developing recommendations on practices and steps that can be taken to improve the safety and environmental performance of shale extraction. The Forest Service will move forward to allow the safe and responsible development of domestic oil and gas resources consistent with the expert recommendations from these and other efforts.

Thank you for the opportunity to provide information about the oil and gas program on the National Forests and clarify the situation related to horizontal drilling and associated hydraulic fracturing. I look forward to answering any questions you may have.

Mr. LAMBORN. All right. Thank you both for your testimony.

A housekeeping note. We will soon be going to the Floor as they call votes, and it will be a lengthy series of votes. So when that time happens, I will remind everyone that we will have to leave and I will set a time for us to come back, hopefully giving some certainty for everyone's schedule who are here today, especially those of you who are witnesses.

In fact, they have just called votes. I think we have time to do the first couple sets of questions for approximately 10 minutes, two sets of five-minute questions. Then we are going to recess the Subcommittee and we will set a time for coming back. So thank you for your patience. I wish this didn't happen, but we don't have any control over that part of our schedule.

Ms. Hyzer, as we have all read this morning—by the way, each Member will be recognized for five minutes for questions, and I will open up.

Ms. Hyzer, as we have read this morning, our national unemployment, unfortunately, has risen to 9.2 percent in June with only 18,000 jobs generated nationwide last month. When you decided to include a horizontal drilling ban in your draft Forest Plan, did you consult with the Commonwealth of Virginia, or anyone else for that matter, on the impact that that would have on existing and future job growth in the energy development sector?

Ms. HYZER. Congressman, first of all I would like to thank you for asking me to this hearing and giving me the opportunity to answer questions about the Forest Plan. We are in a draft comment period, and I want to let you know that the testimony and state-

ments that are made today, the transcript will be taken into consideration as part of the planning record.

In answer to your question, early on we understood and believed that energy development was very important in Virginia, and that is why we decided to go ahead and address the need to make lands available for oil and gas leasing, so that was a very important consideration for us.

Mr. LAMBORN. Specifically, I asked did job growth or job creation factor in at all to your decision-making process thus far?

Ms. HYZER. We understood the relationship of energy development and jobs in Virginia, yes.

Mr. LAMBORN. So you are saying you did take that into account?

Ms. HYZER. We will continue to take that into account, and we welcome additional information on that subject through the comment period that we can take into account in the final decision.

Mr. LAMBORN. OK. Did you seek to find out if there was any horizontal drilling or hydraulic fracturing in any nearby public lands that may have been done in a safe and proper manner?

Ms. HYZER. In Virginia, there has yet to be any hydraulic fracturing done in the Marcellus shale in Virginia, so we did not have information available to us as to what the impacts would be.

Mr. LAMBORN. And anywhere else in the country, even farther distances away? Did you look at—

Ms. HYZER. This was a local base.

Mr. LAMBORN.—what I think is a good safety record of hydraulic fracturing and horizontal drilling?

Ms. HYZER. This was a local base plan and so we focused our analysis and our information gathering on Virginia. That is what our focus was, a local base. It is a community-based plan.

Mr. LAMBORN. OK. Thank you.

Chief Holtrop, a recent study estimated that development of the Marcellus shale added over 44,000 new jobs in Pennsylvania, \$389 million in state and local tax revenue, over \$1 billion in Federal tax revenue and nearly \$4 billion in value added to the state's economy.

Similarly, in West Virginia it created over 13,000 new jobs and contributed over \$220 million in Federal, state and local tax revenue and almost \$1 billion added to the state's economy.

When proposing possible job-killing regulations or administrative actions, do you do a cost/benefit analysis on the outcomes of local job growth and revenues?

Mr. HOLTROP. We do take into account the economic impacts and the implications of decisions that we make. Again, I would like to stress there have been no decisions made in the George Washington National Forest plan. It is a draft that is open for public comment at this time.

But in the analysis of that or any other forest plan process that we go through, yes, one of the things that we take into account are the economic opportunities that are presented by the opportunities to do resource extraction or recreational opportunities. That is one of the things that we take into account, just as we take into account the environmental consequences or the concerns over the use of water or the concerns with water, et cetera.

I think another demonstration of the importance of the jobs and economics is in the draft Forest Plan for the George Washington. The proposal is to open nearly a million acres of the George Washington National Forest to oil and gas leasing.

Mr. LAMBORN. OK. Thank you.

At this point I will yield back the remaining time and I will recognize the Ranking Member for any questions he may have for five minutes.

Mr. HOLT. Thank you, Mr. Chairman.

Mr. Abbey, let me begin with you. Much of the concern about hydraulic fracturing fluids have related to the types of chemicals that are pumped into the ground and then come back out of the ground sometimes with added contaminants, including naturally occurring radioactive materials.

It has been reported that wastewater from hydraulically fractured wells in Pennsylvania and West Virginia have been sent to sewage plants that were not able to remove the radioactive contaminants—even though the levels were as high as 2,000 times EPA's drinking water standards and the radioactive water was released into waterways as it was reported.

As a requirement for drilling permits on Federal lands, does the BLM require assurance that radioactive wastewater will not be dumped into rivers or onto public lands?

Mr. ABBEY. Congressman Holt, certainly water management is a big concern for all of us when we are addressing—

Mr. HOLT. But specifically radioactivity as we are talking about here.

Mr. ABBEY. The Bureau of Land Management issues our authorizations based upon the applicant being able to produce a permit from the authorizing local community or the authorizing officials within—

Mr. HOLT. So it goes to the state or local officials?

Mr. ABBEY. We defer to the state.

Mr. HOLT. This is not a BLM criteria?

Mr. ABBEY. Exactly. Exactly.

Mr. HOLT. As a requirement for drilling permits on Federal lands, does the Bureau require any radiological monitoring of drilling wastes for protection of either the public or the workers?

Mr. ABBEY. Again, we would defer back to the state or local government officials who have that responsibility.

Mr. HOLT. OK. In light of recent developments, do you plan to revise your regulations to ensure that drilling wastes are handled in a manner that doesn't lead to public or worker exposures to radioactivity?

Mr. ABBEY. Our current regulations addressing hydraulic fracturing on public lands and Federal minerals are 30 years old. We are currently reviewing those regulations to determine what, if any, changes we would like to make and pursue any new rule-making that may be required.

Mr. HOLT. Yes. I hope you pursue that aggressively because, yes, fracturing has been used for decades on a very small scale, but on this scale this is new and so I hope you will pursue that.

Mr. Holtrop, NEPA. One of the best features of the environmental protection law is it provides for American citizens to have

input into the planning process, which was something that was lacking in previous decades. How did the Forest Service engage local stakeholders in the planning process?

In particular I am interested in the consideration. You were talking about economic considerations. I am particularly interested in the consideration of agricultural jobs. Are you getting good input on that aspect?

Let me interrupt you for just a moment. In my opening statement I commented that several agriculturally intensive counties had issued public objections.

Mr. HOLTROP. The process that the George Washington National Forest has gone through, as well as the process that occurs across the country during these forest planning processes, is very much, as you indicated, a public process, and we consider that one of the real positive benefits of the approach that we take to get that type of input.

In the case of the George Washington National Forest, we did have public meetings through the area, the communities affected and interested in the George Washington. There are letters that we have received from three of the counties in the George Washington and two of the cities associated with the George Washington all requesting that the Forest Service take a hard look at, or in some cases, ask us to not allow horizontal drilling or hydraulic fracturing, et cetera.

So taking those into account is one of those. Not the only consideration, but certainly one of the considerations that we would expect our local managers to do as they are determining what is the right course of action on a forest planning process.

Mr. HOLT. OK. And just a quick question, Mr. Abbey. Under the Mineral Leasing Act, isn't it correct that no gas deposit shall be leased except with the consent of the surface managing agency?

Mr. ABBEY. That is true.

Mr. HOLT. And that would be who?

Mr. ABBEY. In the case of the George Washington it would be the U.S. Forest Service.

Mr. HOLT. Thank you very much.

Mr. LAMBORN. OK. Thank you, Mr. Ranking member. We now will be in recess until 12:30. I don't have a crystal ball to know exactly when our vote series will finish. It is a lengthy vote series. The good news? It is the only one of the day.

But to give certainty for all of you who came here, and we appreciate it, to give your testimony, as well as any other concerned citizens, we thought it would be good to give a time certain for reconvening so that you will know we won't be here any time before that.

So we will reconvene at 12:30, and the Subcommittee will now be in recess.

[Recess.]

Mr. LAMBORN. The Subcommittee will please come back to order. Thank you all for your patience. We did finish that lengthy vote series, and we are ready to get back into this important topic.

The first panel is still seated. We appreciate your being here. We will get to the second panel as soon as we can. The next set of

questions for up to five minutes is with Representative Thompson of Pennsylvania.

Mr. THOMPSON. Thank you, Chairman Lamborn. I appreciate your assistance in coordinating this hearing.

First of all, I want to ask permission to submit for the record and peace of mind for the Ranking Member of the Natural Resource Committee, who made some remarks regarding the radioactivity in the region regarding Marcellus shale and horizontal drilling.

This is an article, June 21, 2011, that reports on a March study that was done by the Department of Environmental Protection in Pennsylvania that showed no radioactive contaminants in water used and produced in western Pennsylvania where we do a lot of horizontal drilling, so with your permission I would like to submit that for the record.

Mr. LAMBORN. Without objection. So ordered.

[The June 21, 2011, *Pittsburgh Tribune-Review* article follows:]

Public water safe from radioactivity throughout region

By Timothy Puko,
PITTSBURGH TRIBUNE-REVIEW
Tuesday, June 21, 2011

A battery of tests has showed no radioactive contaminants in the water used and produced at 12 of 14 drinking water suppliers in Western Pennsylvania, according to state environmental regulators.

Wastewater treatment plants and drinking water suppliers performed extra tests throughout March, reacting to media reports that questioned whether an increase in Marcellus shale drilling had led to the introduction of radioactive chemicals into public water.

Industry spokesmen said the negative tests are further proof this isn't happening and that water is safe.

Of the 12 drinking water suppliers, only The Tri-County Joint Municipal Authority in Fredericktown reported any traces of radium-228 at all, and it was 80 percent below the maximum amount allowed, said Katy Gresh, spokeswoman at the Pennsylvania Department of Environmental Protection.

The department is still pursuing test results from two other suppliers, the Carmichaels and Newell municipal authorities, she added.

"These test results are confirmation that safe, clean drinking water and responsible shale gas development can and do coexist," said Patrick Creighton, spokesman at the Marcellus Shale Coalition.

Only six of the 14 drinking water plants submitted test results on dissolved solids and other secondary contaminants. Levels did meet pollution standards, Gresh said, noting the department still is pursuing the other results. The state also has asked 25 wastewater treatment plants for results, which weren't immediately available.

Mr. THOMPSON. I want to first of all thank the panel for being here and for your testimony. I want to start with Mr. Holtrop with Forest Service.

Mr. Holtrop, on page 1 of your testimony you state that, and I am quoting, "U.S. Forest Service has no policy, nor do we have any plans to develop any policy, to ban horizontal drilling and the associated hydraulic fracturing."

I am looking for a yes or no answer to the following question. Does the Forest Service have a draft EIS dated April 2011 that states, "The surface management agency (USDA-Forest Service) has a moratorium on processing surface use plan of operations of an application for permit to drill for any horizontal well and associated hydraulic fracturing. The moratorium will end May 1, 2013." Is that correct that that exists?

Mr. HOLTROP. Could you tell me what the title of that EIS is? I am not familiar with it by date.

Mr. THOMPSON. I sure can. I am reading it from the Federal Oil and Gas Leasing Stipulations, Appendix 1, Draft EIS, George Washington National Forest, April 2011, Section 1. My quote comes from Section 1. It is very prominent in the document. Horizontal Drilling Moratorium Stipulation.

Mr. HOLTROP. So is this the George Washington Forest Plan document that you are referring to?

Mr. THOMPSON. George Washington is noted on here in the heading.

Mr. HOLTROP. OK. So what that is, it is an alternative in our draft Forest Plan amongst several alternatives that we are considering.

Mr. THOMPSON. I am trying to just figure out in my own mind then. So this wasn't an internal exercise? It was something that was a proposal being considered? And yet in your testimony you said, "nor do we have any plans to develop any policy."

Mr. HOLTROP. Correct. What I am referring to, there is no policy. The title of the hearing had to do with a policy on a Forest Service ban on horizontal drilling on Federal lands.

My statement was intended to assure you that there is no intent for us to develop a policy nationwide, broadly. What we are talking about on the George Washington is a very site specific, locally driven analysis, and there are a range of alternatives that we are looking for on the George Washington.

Mr. THOMPSON. It still sounds contradicting. I did take from your opening testimony and Mr. Abbey's that, frankly, horizontal drilling and hydraulic fracturing is something that is embraced, and I just find this—you know, I assume that even the consideration of this, which really is developing a policy. You know, you are developing alternatives for a policy you are in the process of developing, which really contradicts your testimony.

The potential for a moratorium was prompted by a specific occurrence in the National Forests of environmental degradation or damage from horizontal drilling and hydraulic fracturing. That is what I am assuming. Were environmental and economic assessments conducted by the Forest Service prompting the proposed moratorium proposal or options or whatever we want to call it?

Mr. HOLTROP. Yes. There is environmental analysis. There has been public input. We looked at all the available science that we had available to us that led to the range of alternatives that we are looking at.

Mr. THOMPSON. So based on the science then there was actually evidence of environmental degradation and damage from horizontal drilling and hydraulic fracturing?

Mr. HOLTROP. The concerns had to do with both the potential, whether there would possibly be potential effects on both surface water and groundwater resources, and there was concern over what might be the chemical makeup of the material following the use for hydrofracturing.

There is a great deal of public input from a lot of interests asking us to take a good, hard look at this issue and so we are trying to be responsive to the public's request for us to do so.

Mr. THOMPSON. I understand public input and I appreciate the Forest Service takes that option, but my question was what does the data show? I mean, the Forest Service is involved in providing resources and so obviously oil and natural gas, I know there is a lot of it pumped out of the Allegheny National Forest.

Is there data? Is there a track record? Is there established environmental damage and degradation that you had in documentation, or were these concerns of what may happen?

Mr. HOLTROP. I think probably the best way of answering that is as we are looking at the full range of resources values that we have, that we are responsible for, that there were concerns that were raised that we felt it was important for us to consider a full range of alternatives that we ought to look at.

We have every intention of using whatever data is available to us in that data. If that science tells us that this can operate safely with public health and resource values accounted for, that is the determination that we intend to make.

I think what we have with National Forests across the United States, we have a recognition that there are great energy values on our National Forest System. There are great other values as well, and there is not going to be one solution in each one of those situations that is going to be the right solution. We are going to continue to look at all of the resource values and all of the opportunities that come associated with those.

Mr. THOMPSON. I am just asking. I would ask actually if you would forward to my office—you know, I am looking for the facts in terms of on forestlands whether there has been environmental degradation versus speculation. Yes.

Mr. HOLTROP. We will provide that information. We will extract much of that from the environmental impact statement, and we will look for other things as well to forward to you.

Mr. THOMPSON. Thank you, Mr. Chairman.

Mr. LAMBORN. OK. The gentleman from Colorado is recognized for up to five minutes.

Mr. TIPTON. Thank you, Mr. Chairman. I appreciate you holding this hearing. Gentlemen, lady, thank you so much for being here as well.

I am a westerner and so there are a few things that are very important to us—our public lands, access to energy and truly to jobs. Just as an aside, Mr. Holtrop, when I read through your testimony you noted about the importance and just spoke to it again of public input coming in. I really want to encourage you when you are looking at closing off some of our forestlands that you do listen to that public testimony, particularly in Colorado.

But to the points that we are dealing with in this particular hearing, we have some real confusion. Mr. Abbey and Mr. Holtrop, if you could maybe answer this? We recently had Secretary Salazar before the Natural Resources Committee. I had been traveling in Colorado and met with BLM officials. They said that when the now defunct wildlands policy was going to be in place that they were not going to allow lateral drilling. When we spoke to the state officers they didn't know what the policy was going to be. Then the Secretary indicated that no, lateral drilling was going to be allowed.

Can you clear this up? It seems to me that we have no basis to make any kind of a determination, and you haven't decided.

Mr. ABBEY. Thank you for the question. First and foremost, we do not have a wildlands policy at this point in time. We are not pursuing such a policy.

Mr. TIPTON. We appreciate that.

Mr. ABBEY. The Bureau of Land Management certainly recognizes the importance of horizontal drilling on public lands. It does lessen the footprint of drilling on these lands. It allows more wells to be drilled from a single location than individual wells being drilled vertically down. So I think both the U.S. Forest Service, as well as the Bureau of Land Management, recognizes the advantage of horizontal drilling.

At this point in time as it relates to the public lands, we will continue to look at all opportunities that we have in responding to requests for applications to drill to see how best we can lessen that surface disturbance, and we will look at those requests on a case-by-case basis. But, as we indicated earlier, there is no ban on horizontal drilling.

Mr. TIPTON. When we are talking about the depth, and maybe you can illustrate this for us, how far below the water table does fracking take place? How deep are those wells below the water table typically?

Mr. ABBEY. It could vary from proposal to proposal.

Mr. TIPTON. Just typically.

Mr. ABBEY. Most drilling that is being done using fracking technology is below the groundwater level.

Mr. TIPTON. Well below?

Mr. ABBEY. In many cases well below.

Mr. TIPTON. Well below.

Mr. ABBEY. In the East that might not be the case.

Mr. TIPTON. Sir, have we ever had any evidence of contamination of the water table from fracking?

Mr. ABBEY. The Bureau of Land Management has never seen any evidence of impacts to groundwater from fracking technology, from the use of fracking technology on wells that have been approved by the Bureau of Land Management.

Mr. TIPTON. So it appears to be safe?

Mr. ABBEY. Well, we have been using that technology for a number of years. As long as we are diligent relative to reviewing the proposals to ensure well casing integrity, to ensure that the design of the well borings are appropriate, to do the monitoring and work with the states and EPA to ensure that all the necessary permits are required and adhered to, again we believe that, based upon the track record so far, that it is safe.

Mr. TIPTON. Very good.

Mr. ABBEY. But that doesn't take away the need to continue to be diligent in reviewing each of the proposals and making sure that appropriate monitoring takes place.

Mr. TIPTON. Great. I really appreciate that to hear the endorsement that it is a safe process. We do have to have the policies in place to make sure that we meet those safety and environmental standards, but it is safe to be able to proceed, so I do appreciate that, Director Abbey.

Gentlemen, I have listened to several questions so far, and I don't believe I have actually heard the answer. Have you done a cost/benefit analysis?

Ms. HYZER. An economic analysis is part of the EIS.

Mr. TIPTON. It has not been done?

Ms. HYZER. Pardon me?

Mr. TIPTON. It has not been done?

Ms. HYZER. There is a draft EIS available for public comment, and it includes a chapter on the economic analysis.

Mr. TIPTON. OK. And so that is in progress?

Ms. HYZER. It is available for public review right now.

Mr. TIPTON. OK. Great. You know, as we were going through you are establishing policy, and I think part of the concern is obviously going to be precedent that comes into some consideration here.

Both the Forest Service and the BLM are moving under the authority that has actually been granted by the Congress of the United States in terms of the developing of these policies. Would you gentlemen be agreeable to coming back for this committee, the Agricultural Committee, the Natural Resources Committee, before going active with your proposed regulations to get them back to the authoritative body of Congress for their review before you go active?

Mr. ABBEY. Which regulations are you referring to?

Mr. TIPTON. Any regulation.

Mr. ABBEY. We believe that we have the administrative authority to pursue our own regulations and policies.

Mr. TIPTON. Was that granted by Congress, sir?

Mr. ABBEY. It would be consistent with the laws that have been granted by Congress.

Mr. TIPTON. So would it be appropriate to bring that back to Congress for approval?

Mr. ABBEY. We would be happy to report back to you on our plans. I am not sure we would be seeking approval.

Mr. TIPTON. I think that is curious. This body has been elected to represent the people of the United States, and you are acting under the authority of Congress. I think you might want to maybe actually consider allowing Congress to have some actual input as well ultimately when we get down to some of the regulations.

As I think probably every Member has heard, we are spending \$1.75 trillion a year right now in regulatory costs in this country. All regulations are not bad, but I think it would be very appropriate for your consideration to come back to the body that authorized your agencies to be able to review those regulations rather than assuming that you have absolute authority.

I yield back the balance of my time, sir.

Mr. LAMBORN. OK. Thank you.

The next person in the order of questions is Mr. Fleming of Louisiana.

Mr. FLEMING. Thank you, Mr. Chairman.

Panel, I am from the 4th District of Louisiana—Shreveport, Bossier City, DeSoto Parish. That is where the Haynesville shale is. Only three short years ago we had no idea really what the Haynesville shale is, was or would be in the future, and it has turned out that it has had a tremendous impact on our economy.

\$11 billion so far entering the economy, jobs, poor parishes that are now doing tremendously well economically. We see police departments, sheriff departments, infrastructure, all of these things being improved, local government. As I say, high paying jobs with good income. And we are beginning to meet the country's needs in terms of natural gas which, as you know, is the cleanest form of hydrocarbon that is now available.

I can tell you that we have not seen any significant problems and so it really is beyond me to wonder now with a 9.2 percent unemployment rate, with energy costs as high as it has ever been and the country in such a desperate economic situation and a technology which is 50, 60 years old and is proven safe and even the EPA in 2004 said was perfectly safe, why in the world would we even be thinking about banning this type of technology, which is so essential not just for gas, but probably for the future of oil as well domestically?

So my question. For instance, Ms. Hyzer, what is the typical depth of drilling in the horizontal drilling process?

Ms. HYZER. I am not aware of that. We have no wells that have been drilled on the George Washington and Jefferson or the George Washington.

Mr. FLEMING. But I mean in a typical gas well, gas shale?

Ms. HYZER. I am not familiar with that.

Mr. FLEMING. Anyone else?

Mr. FERGUSON. I think it depends on what part of the country you are in. It is a real specific, geologic formation specific.

As a general rule of thumb, most of the shale gas development that I have read about and not necessarily witnessed firsthand, there is usually a vertical well that is drilled anywhere from 4,000 to 5,000—

Mr. FLEMING. Just real quickly.

Mr. FERGUSON. Four to five thousand feet.

Mr. FLEMING. Four to five thousand feet. OK.

Mr. FERGUSON. And then they—

Mr. FLEMING. And where is the water table?

Mr. FERGUSON. Again, that varies from different parts of the country. It can be in the first couple of hundred feet, or it could be down as low as maybe a thousand feet.

Mr. FLEMING. All right.

Mr. FERGUSON. But near surface.

Mr. FLEMING. So the horizontal drilling—in fact usually—is five times the depth.

Ms. Hyzer, how many layers of casing is there as you bore down in the ground to get down to the horizontal level?

Ms. HYZER. I am not familiar with that information.

Mr. FLEMING. OK. Anyone else?

Mr. FERGUSON. It can be a number of layers, depending on the depth.

Mr. FLEMING. Typical.

Mr. FERGUSON. Three to four with cement. I describe it as the old collapsible cup concept where you start with the larger surface and as you go down there is more and more.

Mr. FLEMING. All right. I would say in our shale formation typical is six. And how many episodes are you aware where

hydrofracking fluid has leaked into the water table through the casing?

Mr. FERGUSON. I am not aware of any—

Mr. FLEMING. Anybody?

Mr. FERGUSON.—that I can point to.

Mr. FLEMING. Anybody?

[No response.]

Mr. FLEMING. Can anybody specify a single incidence of death as a result of a hydrofracking process and the hydrofracking fluid somehow contaminating the water supply? Anyone?

Mr. FERGUSON. I am not aware of that.

Mr. FLEMING. Serious injury?

Mr. FERGUSON. I am not aware of any.

Mr. FLEMING. So if we are talking about billions of dollars of impact and the possibility of transforming our energy from an oil-based system that we have today to at least in part natural gas—and, by the way, we in the United States have more natural gas than any place in the world as it turns out, and this is a fact we only found out just in the last few years.

If we have all of this potential available to us and no harm to anyone, why in the world would we be considering banning this process? Anyone on the panel willing to answer that question?

Mr. HOLTROP. The purpose of us looking at the restrictions on the use of horizontal drilling on the George Washington National Forest have to do with issues around water use, the volumes of water that are associated with that, what would be the potential effects on surface water resources.

Mr. FLEMING. But we have been doing it for 60 years, sir, and we have no evidence that there is a problem. Why do we want to ban it first and then ask questions later when we have 60 years of experience?

Mr. HOLTROP. One of the things that I think are the input that we are getting through this draft environmental impact process is going to allow us to have additional information, helpful information for us to make that decision.

Mr. FLEMING. You have 60 years, sir. How much do you need?

Mr. HOLTROP. I believe the horizontal drilling technology is more recent than 60 years, but—

Mr. FLEMING. Hydrofracking is.

Mr. HOLTROP. Hydrofracking has been around for 60 years.

Mr. FLEMING. Well, that is what we are talking about here.

Mr. HOLTROP. Well, actually we are talking—

Mr. FLEMING. And 90 percent of wells today require hydrofracking. We have 60 years of experience, not one single death, no injuries even that I know of, and yet we are going to ban or potentially ban the use of hydrofracking and/or horizontal drilling.

Mr. HOLTROP. The preferred alternative in the plan that we are talking about allows hydrofracking with vertical wells. It is the horizontal drilling is what was—

Mr. FLEMING. It is no good without horizontal drilling, sir.

Mr. HOLTROP. It has been used for 60 or 70 years.

Mr. FLEMING. Well, yes, but the type of shale formations that we have today you are going to get very little yield out of vertical

wells. We have to go horizontal, and we are horizontal at two miles down so you are already below the water table. You hit that through the vertical drill, so if anything it would be safer at the horizontal level.

Thank you. I yield back.

Mr. LAMBORN. Mr. Flores of Texas?

Mr. FLORES. Thank you, Mr. Chairman. I thank the panel for being here today.

The jobs report that we got today confirms the impact of a couple of things. One is an out-of-control fiscal situation in our Federal Government and also very importantly, and I think taking more precedence over the economy today, is the regulatory overreach of our administrative agencies.

In that regard, there seems to be a process here that is out of control, and I want to dig into that a little bit more, but before I go there I would like to ask the three witnesses from the Forest Service. What was the target? Was it fracking or was it horizontal drilling or was it both? What was it you were trying to shoot?

Ms. HYZER. We were trying to address the local government and community concerns with horizontal drilling and the excessive amount of water used in hydrofracking and the totality of the impacts of that—where the water comes from, what water comes back out again, what do you do with that water, the effect on the infrastructure, potential impacts on the infrastructure.

Mr. FLORES. OK.

Ms. HYZER. So we looked at a full range of seven different alternatives with the full range so that we could explore different possibilities on how to address the issue, and that is what we are asking comment on.

Mr. FLORES. What sort of facts and science did you use in coming up with that option? I mean, so you heard the local community say we are worried about it.

You have people like *The New York Times* writing about fracking, and I guarantee you they don't know anything about fracking. You have close to two million wells worldwide that have been fracked successfully without any problems, yet we are trying to go after a problem when I am not sure there is a problem. What were the facts and science that you used?

Mr. HOLTROP. If I could, I think that some of the science that was used was the recognition that we had different geologic features on the George Washington than places where hydrofracking has already been successfully used with horizontal drilling, so we have a different geological situation in terms of the configuration of the shale and so that was part of what went into the analysis.

Also what went into the analysis is there has been very little demand for this activity in that area because there seems to be more limited opportunities there, and as we are looking for ways that we can be responsive to the full range of public desires—which included no leasing, which included no oil and gas development from some of the local governments—what the Forest came up with was a range of alternatives that looked at that full range so that we would have this type of a dialogue that we would be able to make a final decision from.

Mr. FLORES. Was there going to be a dialogue? What I have seen from a lot of the rulemaking today is they will get substantial numbers of substantive comments back, and those are all ignored and the rules become final without change. I mean, are you different than the other agencies we are seeing these days?

Mr. HOLTROP. I will not say that we are different from the other agencies. I suspect many of the agencies are like us in that we pay a great deal of attention to the public input that we get. We analyze the input. I would be happy to show you the type of analysis that we do when we do that type of public input.

I can also tell you every time that we do a draft Forest Plan when we come out with a final Forest Plan it is different than what was in the draft based largely on that public comment.

Mr. FLORES. OK. So as I understand the option for the ban of horizontal drilling, vertical drilling is still an acceptable option. Is that correct?

Mr. HOLTROP. In the alternative, yes.

Mr. FLORES. But you do understand that the surface footprint of vertical drilling is much, much more invasive by a factor of anywhere from two to 10 times more invasive than horizontal?

Mr. HOLTROP. Or more. We are aware of that. That is one of the reasons why we do recognize the values of horizontal drilling when the situation calls for it, and if that is the right situation here we will continue to consider that.

Mr. FLORES. And as I understand it, your primary mission is to protect the surface, right? I mean, BLM is responsible for subsurface. Am I correct?

Mr. HOLTROP. Both. Well, the BLM has authority subsurface. We have authority for the surface. But our shared responsibility and our shared desire is to protect water resources, both surface and subsurface, as well as all the other resource values.

Mr. FLORES. OK. I hope that you pay lots of attention to the comments you get because I assume that you are going to receive a lot of comments.

This ban, if it is the direction you would like to go, is the wrong thing to do for this economic—it is wrong for the country from an economic standpoint, from a job standpoint and from an energy standpoint. Thank you.

Mr. HOLTROP. Thanks for the input.

Mr. FLORES. I yield back.

Mr. LAMBORN. Thank you.

I recognize the gentleman from Maryland for up to five minutes.

Mr. SARBANES. I appreciate it, Mr. Chairman. Thank you all for your patience and also for your testimony today. I appreciate your efforts to explain that moving with some prudence and careful thought with respect to this hydraulic fracturing and horizontal drilling does not constitute a ban de facto or any other kind of ban. I think that you have described very well the broad activity that continues to happen on Federal lands with respect to development and production of our natural resources in terms of oil, in terms of gas and so forth.

I don't want any audience that is watching or listening to this hearing to go away with the impression that your caution, your willingness or your desire to move in a kind of deliberate way in

considering the potential harm from this doesn't have any support in reality out there and so I am aware, because I am bringing particular attention to this as a representative who cares very deeply about the Chesapeake Bay and the Chesapeake Bay watershed, that there have been incidents and recent incidents that point to the potential harm that can come from the fracking process.

Not too long ago, there was a blowout in Pennsylvania of one of these hydrofracking wells that resulted in a discharge of thousands of gallons of fracking fluids, which—I think the record ought to at this point stipulate—can contain a lot of toxic material. My understanding is that even in those areas of the country that are cited as having 60 years of experience and it was pointed out that you have to distinguish where this experience has happened because you have different geology implicated in places like the Chesapeake watershed than you do in places like Oklahoma and Texas and so forth.

So we shouldn't borrow lock, stock and barrel the lessons from one part of the country and try to impose them on others, but even in those parts of the country my understanding is that there was a discharge line installed in connection with a fracking process operated by Chesapeake operating in Oklahoma and Texas that resulted in discharge fluid into the Washita River.

Can you speak to the fact that there are instances out there that you are taking note of that suggest that there is potential harm that can come from the process, from the beginning to the end process, that is a good reason for you to want to step carefully in terms of whether you open these kinds of public lands to horizontal drilling? Mr. Abbey and then any others who want to speak to it.

Mr. ABBEY. Well again, I think that is an excellent question and comments that you raise. The increased use of hydraulic fracturing on both public and private lands has certainly generated concern among the public regarding its potential effects on water quality and availability. As I mentioned before, as far as the Bureau of Land Management, in our experience we have not seen impacts to groundwater as a result of using the fracking technology on wells that we have approved. That does not take away the need to be diligent, as I mentioned before.

You know, that is why we focus on the integrity of the well and also to make sure that the well itself is well engineered and designed because if there is going to be a leak, it would be as part of that drilling process, and there is potential for the fracking chemicals to get into groundwater. That is why we put most of our focus on the casings and again the well bore, the integrity of that.

At the same time, it behooves all of us to maintain diligence on the monitoring so that we are cognizant of any potential impact that might be occurring so that we could take immediate steps to rectify those impacts. I have read about some of the impacts that have been associated with fracking in the eastern United States. I am not familiar with those particular cases, but it does again raise our awareness that we need to be very, very careful as we review these proposals.

Mr. HOLTROP. If I could just add to that? The part of your question thinking from the very beginning of the process to the end of the process, those are things that we are also continuing to pay at-

tention to and think about; not only the source of the water and where the water is coming from in order to provide the material for the fracking and what would be the implications of the water coming from that source, but then the material afterwards.

There are ways, and there is a lot of success, in successfully disposing of that material, but it has to be—as Mr. Abbey has been saying, we have to be diligent in paying attention to how we dispose of the material following the hydrofracturing as well.

Mr. SARBANES. Thank you.

Mr. LAMBORN. OK. Now the gentleman from Virginia, Mr. Goodlatte?

Mr. GOODLATTE. Thank you, Mr. Chairman. I want to thank you and Chairman Thompson for holding this hearing. My congressional district in the beautiful Shenandoah Valley of Virginia seems to be the focal point of it, so I appreciate the attention brought to the matter.

I have long been, as I think most people here have been, a supporter of the use of natural gas. For those who are concerned about greenhouse gas emissions, it has fewer emissions than some other carbon-based sources of energy. I am also a big advocate of local input into decisions made by the Federal Government, particularly in the case of the management of the George Washington and Jefferson National Forests, which are both primarily located in my congressional district.

I commend them for doing that. They have heard from some of my local governments on the issue. I think that is important, but my understanding is that the Forest Service would have other ways to stop horizontal drilling in the National Forest should a permit be requested, and I don't know that that has been received at this point in time, but should one be filed in the George Washington National Forest would there be other ways of stopping horizontal drilling from taking place if you found that there were not the correct procedures or precautions being taken?

Mr. Sarbanes and Mr. Abbey talked about the necessity, which I think is absolutely true, that you have to deploy good, safe technology to do this. On the other hand, the preferred plan of the Forest Service for the George Washington imposes a 15 year ban as the preferential way to address the concerns.

So what I would ask you, Mr. Holtrop, is why did the Forest Service feel that a 15 year ban was the appropriate way to go in their preferred plan, as opposed to looking at the science, looking at the technology that Mr. Abbey referred to, making sure that the drilling goes well below the groundwater?

You are right. Geological formations are different everywhere, but it is my understanding that there is horizontal drilling that takes place right now in the Jefferson National Forest to the south of the George Washington National Forest. Why a 15 year ban, as opposed to taking other measures that would assure my constituents that this is being done in a safe way that will not disturb the drinking water that my local governments are concerned about or other degradation of the land that certainly some of my constituents are also concerned about?

Mr. HOLTROP. Thank you for that question and thank you for your continuing interest and help in the management of the George Washington National Forest.

I believe the best way to answer that direct question, and I would just like to add a little bit, is that I think as the Forest weighed the variety of information that they had in terms of the local input, in terms of the recognition of the high values of the water resources from the George Washington National Forest for millions of people, that as they weighed all of those in order to generate the kind of input and the kind of interest in the topic that that was the right, preferred alternative.

But again, not a decision. It was to make sure that there was the appropriate type of continuing public input into the decision-making process, which is—

Mr. GOODLATTE. Was there a safety or scientific reason for the Forest Service to place the ban, to propose placing the ban?

Mr. HOLTROP. Again, the science. We used the best science that is available to us at this time. I would like to express again there has not been a decision made, so there is not a ban. There is a proposed preferred alternative that considers that.

Mr. GOODLATTE. Let me ask you. I understand that. Let me ask you another question. Is there a difference in the shale formation in the George Washington Forest different than the Jefferson National Forest that would require such an absolute difference in approach?

Mr. HOLTROP. Maybe somebody else can answer and I can fill in.

Ms. HYZER. OK. The Marcellus shale formation under the George Washington is very folded and fractured, and over the last 30 years there have been hundreds of thousands of acres there leased, but only five wells have been drilled, conventional wells, and they were not successful.

On the Jefferson it is a different kind of formation. It is more accessible. There are a number of wells there now, active wells that have been leased over many years.

Mr. GOODLATTE. So that makes it more attractive maybe. I mean, that might also provide more assurance to my constituents that there may not be the activity that they are concerned about because the formation may be different for that reason.

But is there a safety difference between the two? That I think should be the basis on which you would make a decision on whether to impose different regulations for drilling there as opposed to an outright ban there.

Ms. HYZER. That is a point that we need to look into and consider.

Mr. GOODLATTE. I also understand that public input is important. It is important to us as Representatives. It is certainly important for government agencies to take that into account, so I commend you for doing that.

Yet some of the same localities that came out in opposition to wilderness, which is included in the plan, they came out in opposition to wilderness and yet you have included wilderness in those same jurisdictions. Do you have a comment on why you responded to the localities on one issue, but not the other?

Ms. HYZER. We have been working with the counties on that issue also, and we have looked at what the potential is for wilderness in there and what is most suitable.

We did not recommend a great deal of wilderness at this point. Again, we were concerned that we needed to have a real balance of uses and development activities on the National Forest. We were concerned about jobs. We were concerned about energy development. So we looked at the broad range, and we have continued to work with the counties and will continue to work with them on that issue.

Mr. GOODLATTE. Good. Well, we appreciate that. Could I just—

Mr. HOLTROP. Could I just add to that one question if I might, Mr. Chairman? I am sorry.

Mr. GOODLATTE. Mr. Holtrop?

Mr. HOLTROP. Thank you. If I could just very briefly just add the range of public input in those communities of interest that were providing input, some of them requested no leasing. Some of them requested no hydrofracturing whatsoever. The preferred alternative that was selected does allow, does open up 900,000 plus acres of the forest to leasing that was not previously available. It does allow hydrofracturing for vertical wells.

Again, there was a consideration of all those inputs, so I would say that what we have come up with in the preferred doesn't totally meet the—

Mr. GOODLATTE. Sure. I think one of my colleagues made the point that with vertical wells if you are going to go ahead that route it first of all requires more drilling, more surface disturbance than horizontal drilling.

But also if you allow hydrofracking with a vertical well the issue there is even greater in terms of groundwater contamination, so I am not sure your position is consistent in that regard.

Mr. HOLTROP. I agree with what you just said. If the concern was the impact, the surface impact, that would drive the decision more when the concern is the water quality. That is the determination we are making.

Mr. GOODLATTE. Mr. Chairman, if I might have permission to ask one more question?

Prior to proposing this ban in your preferred plan, had any companies approached the Forest Service about the possibility of obtaining permits for horizontal drilling?

Ms. HYZER. Not to my knowledge. BLM? Any?

Mr. GOODLATTE. My recommendation would be that you anticipate that that could happen and that you have good regulations that put in place the kind of protections that Mr. Abbey referred to because this is a very common practice that takes place all over the country. Millions of wells have been drilled, and it is by far the most efficient way to extract a very important source of energy.

I would hope that you would take into account that a simple 15 year ban doesn't address. It just simply punts. It doesn't take into account the need to have good technology deployed if you were to receive applications and that that might be the better route to go. Thank you.

Mr. LAMBORN. OK. Thank you. I want to thank the panel for their testimony. That concludes our questions. Sorry for the delay earlier. Thank you for your patience on that as well.

I now invite the second panel to come forward. On that panel will be Maureen Matsen, Deputy Director of Natural Resources and Senior Advisor on Energy for the Commonwealth of Virginia, accompanied by David Spears, the State Geologist of Virginia; Mr. David Miller, Director of Standards for the American Petroleum Institute;

Mr. Lee Fuller, Vice President of Government Relations for the Independent Petroleum Association of America; Mr. Craig Mayer, General Counsel for Pennsylvania General Energy, LLC; Ms. Kate Wofford, Executive Director of Shenandoah Valley Network; and Ms. Amy Mall, Senior Policy Analyst for the Natural Resources Defense Council.

[Pause.]

Mr. LAMBORN. Now, before we seat this panel I want to clarify an issue. Under Committee Rule 4(a) and House Rule 12.2(g)(5), witnesses appearing in a nongovernmental capacity are required to file with their testimony a completed disclosure form describing their education, employment and experience and provide other background information pertinent to their testimony. The purpose of this information is to help the Members of the committee judge the testimony in context.

Rule 4(a) of the committee indicates that failure to comply with these requirements may result in the exclusion of the written testimony from the hearing record and/or the barring of an oral presentation of the testimony.

Ms. Mall, recognizing that your invitation was extended late your disclosure statement indicates a statement where you admit that it remains incomplete and that the information will be forthcoming. So before the committee seats you on this panel, will you orally commit to us that you will provide a completed disclosure form to this committee no later than close of business Tuesday, July 12 of this year?

Ms. MALL. We absolutely will commit to providing the disclosure form. I would not be providing the information myself—it would be our legal and financial staff—so I am assuming they can do it by that time on the 12th.

Mr. LAMBORN. Thank you so much.

Ms. MALL. Thank you.

Mr. LAMBORN. Like all our witnesses, your written testimony will appear in full in the hearing record, so I ask you to keep your oral statements to five minutes as outlined in our invitation letter.

Our microphones are not automatic, so you have to press the button to begin. The green light comes on with five minutes, a yellow light will come on with one minute, and a red light at the conclusion of five minutes.

We will just jump right in. Ms. Matsen, you may begin.

**STATEMENT OF MAUREEN MATSEN, DEPUTY DIRECTOR OF
NATURAL RESOURCES AND SENIOR ADVISOR ON ENERGY,
COMMONWEALTH OF VIRGINIA; ACCOMPANIED BY DAVID
SPEARS, VIRGINIA STATE GEOLOGIST**

Ms. MATSEN. Thank you, Mr. Chairman, Members of the Subcommittee. It really is a pleasure to be here.

Since taking office 18 months ago, Governor Bob McDonnell has had a singular focus on rebuilding Virginia's economy. The citizens of Virginia, like the citizens of every state around the country, need jobs first and foremost.

To make certain that we grow our economy and create jobs in ways that are safe and environmentally responsible, we have made our state environmental regulators an integral part of our economic development teams so that we can successfully allow the development and use of Virginia's natural resources without sacrificing our clean air and our clean water.

The focus on bringing new jobs to Virginia goes hand in hand with the Governor's determination to make Virginia the energy capital of the East Coast. We are working every day to make Virginia's valuable energy resources, both onshore and offshore, available to meet growing energy needs and to secure high paying jobs in energy development and in the supply chains that support that development.

Since adoption of the 1990 version of Virginia's Gas and Oil Act, natural gas production has meant more than \$2 billion in capital investment in Virginia, over \$630 million in royalties, over \$150 million in severance taxes paid, and all of that is in addition to mineral, payroll and sales taxes paid to Virginia. Most important of all, the industry has created more than 3,000 jobs.

Virginia has been effectively balancing our economy and our environment for decades. Hydrofracturing has been used in approximately 1,800 wells, producing natural gas from shale, sandstone and limestone formations in Southwest Virginia since the 1950s. We are today, as it has been noted, drilling wells in the Jefferson National Forest.

Natural gas wells in Virginia are permitted through the Division of Oil and Gas of Virginia's Department of Mines, Minerals and Energy. This group works closely in all well permitting with the Virginia Department of Environmental Quality to ensure that water withdrawals and disposal of produced fluids do not harm surface or groundwater.

I have with me today in fact a technical expert, Mr. David Spears, who is our State Geologist and a former Director of the Oil and Gas Division, to answer any questions you might have about our regulatory model and its enforcement, but I will share with you a few of its important attributes.

Our permit review process begins at the very beginning with research concerning the specific proposed well site. Our regulations do not allow any offsite impacts or discharges to surface waters. Our inspectors are on-site for every critical operation leading to production and for reclamation. Our comprehensive regulatory scheme has protected Virginians and Virginia's environment for decades. Over those years there have been no documented in-

stances of surface water or groundwater degradation from fracking in Virginia.

In short, Virginia has long experience with effectively regulating hydrofracturing. We are doing it safely, and we are protecting the environment and the health of our citizens. Virginia appreciates and values its spectacular National Forests. Indeed, no one cares more for the preservation of Virginia's magnificent landscapes and the quality of Virginia's waters than Virginians do. Our regulators protect the water that they, their families and their neighbors enjoy and depend on every day.

The proposed ban on horizontal drilling included in the draft revised land and resource management plan for the George Washington National Forest, if adopted, would represent an unprecedented interference with development of underground resources on Federal lands. Restricting drilling in an area the same size as the current Virginia producing area will limit jobs and economic growth.

We know of no justification, scientific or otherwise, for ending the effective collaboration between Virginia and the Bureau of Land Management and other Federal agencies to provide access to those resources. In fact, horizontal drilling would allow access to the important energy resource under the forest with fewer wells and far less construction and disruption above ground than comes with the traditional vertical wells that have historically been allowed in the forest.

Virginia is home to a valuable natural gas resource that ought not be put on the shelf and off limits. The proposed ban would harm Virginia and Virginians by burdening business and preventing job growth. It would undermine the nation's energy security by placing domestic resources out of reach at a time when global competition for energy resources is rapidly increasing, and it would do so without justification and without any identifiable or tangible benefit beyond the protections already accomplished by Virginia's well-established regulation of natural gas development.

I thank you for this opportunity to be with you today, and I am happy to respond to your questions.

[The prepared statement of Ms. Matsen follows:]

Statement of Maureen Matsen, Deputy Director of Natural Resources and Senior Advisor on Energy, Commonwealth of Virginia

Since taking office 18 months ago, Governor Bob McDonnell has had a singular focus on rebuilding Virginia's economy. The citizens of Virginia, like the citizens of every state around the country need jobs, first and foremost.

For Governor McDonnell that means that his most important job is recruiting new businesses to locate in Virginia, and facilitating the expansion of our existing businesses.

And to make certain that we grow our economy and create jobs in ways that are safe and environmentally responsible, we have made sure that our state environmental regulators are an integral part of our economic development teams, so that we can successfully allow the development and use of Virginia's natural resources, without sacrificing our clean air or our clean water.

The focus on bringing new jobs to Virginia goes hand in hand with the Governor's determination to make Virginia the Energy Capital of the East Coast.

We are working every day to make Virginia's valuable energy resources—on shore and offshore—available to support Virginia's energy needs, to the nation, and to the world.

The development of Virginia's coal, offshore and onshore wind, biomass, nuclear, solar, oil and natural gas resources, offers secure, high paying jobs both in development and in the supply chains that support that development.

Virginia businesses depend on access to our natural resources, and our citizens depend on the jobs those businesses provide, as well as the direct and indirect revenues that flow from them.

Indeed, since adoption of Virginia's Gas and Oil Act, natural gas production has meant more than \$2 billion in capital investment, \$630 million in royalties, \$150 million in severance taxes paid, in addition to mineral, payroll and sales taxes, to Virginia. And the industry has created more than 3000 jobs.

Specifically with regard to natural gas development in Virginia, we have been effectively balancing our economy and our environment for decades.

Fracing has been used in approximately 1800 wells, producing natural gas from shale, sandstone and limestone formation drilled in Southwest Virginia since the 1950s.

We are—today—drilling wells in the Jefferson National Forest. There have been wells drilled in the George Washington National Forest, though none of them are active any longer.

Natural gas wells are permitted through our Division of Oil and Gas, of our Department of Mines Minerals and Energy. This group works closely, in all well permitting, with the Virginia Department of Environmental Quality to ensure that water withdrawals and disposal of produced fluids do not harm surface or ground waters.

Our permit review process includes: research concerning the specific proposed well site; water used during the drilling process is required to meet state water quality standards by region; Virginia's well casing/cementing program is a multi-casing and cementing program designed to prevent contamination of groundwater; our regulations do not allow off-site impacts or discharges to surface waters; independent lab tests of water wells and springs within 500 feet of a proposed well are required before drilling can begin; waste water can only be land applied if the fluids meet water quality standards, if not, it must be transported to an approved Class II EPA waste disposal well or other properly permitted facility. Our inspectors are on site for every critical operation leading to production, and for reclamation. And those are just the highlights of a comprehensive regulatory scheme that has protected Virginians, and Virginia's environment for fifty years. There have been no documented instances of surface water or groundwater degradation from fracing in Virginia.

In short, Virginia has long experience with effectively regulating hydro fracturing, and in working with the U.S. Forest Service and the Bureau of Land Management to safely develop the resources available under federal lands, including our national forests.

We are doing it safely, and we are protecting the environment—our water and our air—at the same time.

Virginia appreciates and values its spectacular national forests.

Indeed, no one cares more for the preservation of Virginia's magnificent landscapes and the quality of Virginia's waters, than Virginians do.

Our regulators protect what they, and their neighbors, enjoy and depend on every day.

The Draft Revised Land & Resource Management Plan for the George Washington National Forest—by virtue of its proposed ban on horizontal drilling –

If adopted, would represent an unprecedented interference with development of underground resources on federal lands, that ought to be available to meet the nation's growing energy needs.

Restricting drilling in an area the same size as the current Virginia producing area limits jobs and economic growth.

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Virginia is home to a valuable natural gas resource that ought not be put on the shelf, and off limits.

The proposed ban would harm Virginia, and Virginians by burdening business and preventing job growth;

It would undermine the nation's energy security by placing domestic resources out of reach at a time when the global competition for energy resources is rapidly increasing.

And it would do so without justification, and without any identifiable and tangible benefit that we can see, beyond what is already accomplished by our well established regulation of natural gas development.

Mr. THOMPSON [presiding]. Thank you for your testimony.
Mr. Miller, if you will proceed with your testimony, please?

**STATEMENT OF DAVID MILLER, P.E., F.A.S.C.E.,
STANDARDS DIRECTOR, AMERICAN PETROLEUM INSTITUTE**

Mr. MILLER. Good afternoon, Chairman Lamborn and Chairman Thompson, Ranking Members and Members of the Subcommittee. Thank you for the opportunity to address challenges facing domestic oil and gas development.

My name is David Miller. I am the Standards Director for the American Petroleum Institute. You may know that API has more than 470 member companies that represent all sectors of America's oil and natural gas industry and that our industry supports 9.2 million American jobs and provides most of the energy America needs.

What you may not know is that API has been the leader for nearly nine decades in developing voluntary industry standards that promote reliability and safety through proven engineering practices. Our industry's top priority is to provide energy in a safe, technologically sound and environmentally responsible manner. We therefore take seriously our responsibility to work in cooperation with government to develop practices and equipment that improve the operational and regulatory process across the board.

The API standards program is accredited by the American National Standards Institute, ANSI, the authority on U.S. standards and the same organization that accredits programs in several national laboratories. API undergoes regular third party program audits to ensure compliance with ANSI's essential requirements for standards development.

API standards are developed through a collaborative effort with industry experts, as well as the best and brightest technical experts from government, academia and other relevant stakeholders. For that reason, API standards are widely cited by both Federal and state regulators.

The committees that develop and maintain these standards represent API's largest program, with over 4,800 volunteers working on 380 committees and task groups. API standards are normally reviewed every five years to ensure that they remain current, but some are reviewed more frequently based on need.

Overall, API maintains some 600 standards, recommended practices, specifications, codes, technical publications, reports and studies that cover all aspects of the industry, including five guidance documents focused on hydraulic fracturing operations. These documents provide the blueprint for the environmentally sound development of natural gas.

We have shared these documents with nongovernmental organizations, state regulators, the Bureau of Land Management and the Department of Energy. In particular, API has presented an overview of these documents to the Public Health, Safety and Environ-

mental Protection Work Group of the Pennsylvania Governor's Marcellus Shale Advisory Commission.

API has also given presentations to industry conferences and provided training on these documents to staff members of the Pennsylvania Department of Environmental Protection. We are available to provide similar educational opportunities to other interested stakeholders, and the documents are publicly available on our website at www.api.org under the Hydraulic Fracturing page.

Well construction practices covered in these documents are standard in the industry and enforced by virtually all states to effectively protect underground sources of drinking water from potential impacts related to oil and gas exploration of production activities, including hydraulic fracturing.

The great majority of hydraulic fracturing activities take place at depths far below existing groundwater sources that could reasonably be considered underground sources of drinking water. Contemporary well design practices—still pipes cemented to the rock through which the well is drilled—ensure multiple levels of protection between any sources of drinking water and the production zone of an oil and gas well.

We look forward to providing constructive input as the Subcommittees, the Congress and the Administration consider the challenges facing domestic oil and gas development.

That concludes my statement. I welcome questions from you and your colleagues. Thank you.

[The prepared statement of Mr. Miller follows:]

**Statement of David Miller, Standards Director,
American Petroleum Institute**

Good morning, Chairman Lamborn and Chairman Thompson, Ranking Member Holt and Ranking Member Holden, and members of the subcommittees. Thank you for the opportunity to address challenges facing Domestic Oil and Gas Development.

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API's standards program is accredited by the American National Standards Institute, ANSI, the authority on U.S. standards, and the same organization that accredits programs at several national laboratories. API undergoes regular third-party program audits to ensure compliance with ANSI's *Essential Requirements* for standards development.

API's standards are developed through a collaborative effort with industry experts, as well as the best and brightest technical experts from government, academia and other relevant stakeholders. For this reason API standards are widely cited by both Federal and State regulators.

The committees that develop and maintain these standards represent API's largest program, with 4,800 volunteers working on 380 committees and task groups. API standards are normally reviewed every five years to ensure they remain current, but some are reviewed more frequently, based on need.

Overall, API maintains more than 600 standards—recommended practices, specifications, codes, technical publications, reports and studies—that cover all aspects of the industry, including five guidance documents focused on hydraulic fracturing operations. These documents provide the blueprint for the environmentally sound development of natural gas. We have shared these documents with Non-Govern-

mental Organizations, State Regulators, the Bureau of Land Management and the Department of Energy.

In particular, API has presented an overview of these documents to the Public Health, Safety, and Environmental Protection Work Group of the Pennsylvania Governor's Marcellus Shale Advisory Commission. API has also given presentations to industry conferences and provided training on the documents to staff members of the Pennsylvania Department of Environmental Protection. We are available to provide similar educational opportunities to other interested stakeholders, and the documents are publically available on our website at www.api.org under the "Hydraulic Fracturing" page.

Well construction practices covered in these documents are standard in the industry and are enforced by virtually all states to effectively protect underground sources of drinking water from potential impacts related to oil and gas exploration and production activities, including hydraulic fracturing. The great majority of hydraulic fracturing activities take place at depths far below existing groundwater sources that could reasonably be considered underground sources of drinking water. And contemporary well design practices—steel pipe cemented to the rock through which a well is drilled—ensure multiple levels of protection between any sources of drinking water and the production zone of an oil and gas well.

We look forward to providing constructive input as the Subcommittees; the Congress and the Administration consider the challenges facing Domestic Oil and Gas Development.

This concludes my statement, Messrs. Chairman. I welcome questions from you and your colleagues. Thank you.

Mr. THOMPSON. Thank you, Mr. Miller.

Mr. Fuller, go ahead and proceed with your testimony, please.

STATEMENT OF LEE FULLER, VICE PRESIDENT OF GOVERNMENT RELATIONS, INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA (IPAA)

Mr. FULLER. Mr. Chairman and Members of the Committee on Natural Resources and the Committee on Agriculture, while today's hearing has been triggered by the draft environmental impact statement related to the George Washington National Forest, IPAA believes that the draft EIS presents broader issues.

First, it reflects an inconsistency within the Administration. While publicly emphasizing the importance of American natural gas, its regulatory positions in this draft EIS and other venues seek to limit the access and production of these resources.

In the draft EIS, the Forest Service seeks to limit the use of the horizontal drilling technology. It rationalizes these limitations based on surface disruption and water issues. Horizontal drilling technology is recognized as an option that reduces the surface footprint. The water issues are couched in the context of comparing the impacts of one horizontally drilled well to one vertical well rather than one horizontally drilled well to the several vertical wells it replaces.

The draft EIS clearly anticipates that a portion of the resource play underlying the forest is shale gas. Development of shale gas hinges on the use of two pivotal technologies, horizontal drilling and hydraulic fracturing. The draft EIS proposes a horizontal drilling ban that would prevent the economic development of this shale gas resource. If this type of rationale is applied to Federal lands nationally, it will clearly limit America's access to its resource base. It is completely unjustified.

Second, the draft EIS follows a path of targeting longstanding, well-regarded technologies as the basis for limiting development.

Over the past several years, there has been a national effort to thwart the development of American resources by attacking various technologies, principally hydraulic fracturing, to create anxieties in communities and to shift the decision-making process from managing environmental risks to prohibitions of technologies.

Developing American resources is not easy. Drilling natural gas and oil wells is a capital intensive process that involves sophisticated equipment. Equally important, it is a regulated action. Oil and natural gas drilling regulations have been developed since before horizontal drilling or hydraulic fracturing existed.

Drinking water protections that require the use of steel casing cemented in place when the well bore passes through water supplies were developed to protect these resources from exposure to oil and hence produced water. Those protections remain in place and are regularly revised. They are the fundamental protections that apply to the use of hydraulic fracturing with or without horizontal drilling.

Other environmental risks must also be managed. Produced water, water that is present in natural gas and oil formations, can be a significant environmental hazard generally because it is extremely salty. State regulatory programs have been created to manage this risk, and both the Federal Clean Water Act and Safe Drinking Water Act regulate produced water management.

If decisions on development of American natural gas and oil are based on managing the environmental risk, history demonstrates that regulatory systems effectively address the risks associated with oil and natural gas production. Consequently, the tactics of those opposing development have shifted.

First, the technologies used to produce natural gas and oil are distorted. Second, the regulatory process and the regulators are demeaned. Third, Federalization of the regulatory process or expanded Federal regulations demand it.

Hydraulic fracturing is an illustrative example. Recurring studies have included that fracturing is safe as currently regulated, but since it is a linchpin to developing America's large shale gas and shale oil formations, fracturing has been mischaracterized, distorted and demonized.

Because the regulatory systems create a barrier to movement of fracturing fluids from the well bore to drinking water, the environment is protected from the fracturing fluids that are used, mixtures that are 99.5 percent water and sand. Consequently, rather than address the management of the fracturing process, production opponents have focused on the chemicals used in the one-half percent of the fluids.

Producers do not oppose disclosing the chemicals used in the fracturing process, but because confidential business information is involved the execution of disclosure is not straightforward. Weaving through these complexities, the state regulators have developed a national registry, Frac Focus, that producers strongly endorse. It will provide well-by-well information on chemicals, but production opponents will not endorse it. They demand Federalization.

This disagreement will continue with the key point that the regulatory process protects groundwater resources since chemicals will always be a part of the production of oil and natural gas, a cas-

uality to the antiproduction rhetoric. Equally clear, production opponents regularly attribute any produced water problem to hydraulic fracturing. In recent years, produced waters are characterized as fracturing fluids. They are not.

If a rational debate on production is to take place, it must be based on a fair characterization of the issue instead of the distorted rhetoric that has become so prevalent. Thank you very much. I will be happy to answer any questions.

[The prepared statement of Mr. Fuller follows:]

Statement of The Independent Petroleum Association of America

This testimony is submitted by the Independent Petroleum Association of America (IPAA). IPAA represents the thousands of independent natural gas and oil explorers and producers, as well as the service and supply industries that support their efforts. Independent producers drill about 95 percent of American oil and natural gas wells, produce over 56 percent of American oil and more than 85 percent of American natural gas.

This hearing examines issues associated with the development of American oil and natural gas resources, principally with respect to access to federal lands. In part, the hearing addresses a proposed plan for the development of the George Washington National Forest. But, IPAA believes that this proposed plan presents a far larger issue—the reluctance of the current Administration to support the development of the full spectrum of American resources. More specifically, the issues that seem to represent the Administration's positions related to its approach to technologies that are essential to develop these American resources—technologies that have been proven safe over years of operation but are now, without evidence, called into question. This tactic has been regularly used by various environmental groups that oppose the development of all fossil fuels as part of a strategy to create community anxiety over oil and natural gas development, demean the regulatory process and agencies that manage the environmental risk associated with these technologies, and demand a federalization of the regulatory process to inhibit resource development.

Most of this effort has been directed at the use of advanced hydraulic fracturing. In the George Washington National Forest proposal, the tactic has expanded to include the use of horizontal drilling. This testimony will address both technologies.

The Draft Environmental Impact Statement for the Revised Land and Resource Management Plan for the George Washington National Forest (DEIS) includes as its preferred alternative the prohibition of horizontal drilling for oil and natural gas. Astonishingly, it justifies this preference on the basis of limiting surface disruption and water demand. A fundamental benefit of horizontal drilling is its reduction of the surface footprint of oil and natural gas development. During the debates over the Arctic National Wildlife Refuge, it was the use of horizontal drilling to tap distant reservoirs that reduced the surface impact of oil development. Horizontal drilling technology allows the well bore to turn from its vertical orientation in order to develop resources that are inaccessible from the well's surface site or that are deposited in horizontal formations such as shale gas and shale oil. Horizontal drilling rapidly increased in the mid-1970s to become a mainstay of drilling options to access a variety of different resource plays. Highlighted in the Department of Energy 1999 document, "ENVIRONMENTAL BENEFITS of ADVANCED OIL and GAS EXPLORATION and PRODUCTION TECHNOLOGY", horizontal drilling provides both more efficient drilling and less surface disruption.

IPAA believes that the DEIS follows a common pattern of overstating implications of oil and natural gas development on water demand. This pattern builds on two perceptions—the demand for water in oil and natural gas development is high and the demand for its use in fracturing in the context of horizontal drilling is particularly large. Significantly, the DEIS use of the water demand issue demonstrates that the real issue relates to hydraulic fracturing. But, by examining the issue in context, the perceived impact is overstated. Numerous assessments of the demand for water in oil and natural gas development demonstrate that it falls well below other water demands. For example, the FracFocus website, developed by the Ground Water Protection Council (GWPC) and the Interstate Oil and Gas Compact Commission (IOGCC), provides a breakdown of water demand demonstrating that oil and natural gas development falls in the mining category—approximately one percent of the total (<http://fracfocus.org/water-protection/hydraulic-fracturing-usage>). Certainly, specific areas will differ in the mix of demand, but clearly water use for oil and nat-

ural gas development is manageable. Similarly, the DEIS proposes to prohibit horizontal drilled wells while allowing vertical wells that would be hydraulically fractured. In part, it rationalizes this distinction by stating:

Some level of hydrofracturing is used in nearly all gas well drilling. Conventional drilling has occurred on the Jefferson NF for many years without incident. It is the unconventional drilling technique of horizontal drilling and its unconventional use of hydrofracturing that has raised concerns. Horizontal drilling uses repeated hydrofracturing at intervals throughout the horizontal shaft over long distances, and so, requires very large amounts of water and has the potential for affecting water quality that goes far beyond hydrofracturing associated with conventional (vertical) drilling. Rather than restricting all hydrofracturing, the Forest decided to prohibit horizontal drilling and its associated hydrofracturing.

Setting aside that neither horizontal drilling nor hydraulic fracturing is an unconventional technology, the statement fails to recognize that horizontal drilling allows for the development of the same amount of resource that would require far more vertical wells. The 2009 Department of Energy document, *Modern Shale Gas Development in the United States: A Primer*, sets out the impact well:

Modern shale gas development is a technologically driven process for the production of natural gas resources. Currently, the drilling and completion of shale gas wells includes both vertical and horizontal wells. In both kinds of wells, casing and cement are installed to protect fresh and treatable water aquifers. The emerging shale gas basins are expected to follow a trend similar to the Barnett Shale play with increasing numbers of horizontal wells as the plays mature. Shale gas operators are increasingly relying on horizontal well completions to optimize recovery and well economics. Horizontal drilling provides more exposure to a formation than does a vertical well. This increase in reservoir exposure creates a number of advantages over vertical wells drilling. Six to eight horizontal wells drilled from only one well pad can access the same reservoir volume as sixteen vertical wells. Using multi-well pads can also significantly reduce the overall number of well pads, access roads, pipeline routes, and production facilities required, thus minimizing habitat disturbance, impacts to the public, and the overall environmental footprint.

The *Primer* explains the issue more precisely:

Analysis performed in 2008 for the U.S. Department of the Interior estimated that a shallow vertical gas well completed in the Fayetteville Shale in Arkansas would have a 2.0-acre well pad, 0.10 miles of road and 0.55 miles of utility corridor, resulting in a total of 4.8 acres of disturbance per well. The same source identified a horizontal well pad in Arkansas as occupying, approximately 3.5 acres plus roads and utilities, resulting in a total of 6.9 acres. If multiple horizontal wells are completed from a single well pad it may require the pad to be enlarged slightly. Estimating that this enlargement will result in a 0.5-acre increase, the 4-well horizontal pad with roads and utilities would disturb an estimated total of 7.4 acres, while the 16 vertical wells would disturb approximately 77 acres. In this example, 16 vertical wells would disturb more than 10 times the area of 4 horizontal wells to produce the same resource volume. This difference in development footprint when considered in terms of both rural and urban development scenarios highlights the desire for operators to move towards horizontal development of gas shale plays.

From an environmental standpoint, the advantages are obvious. The surface impact is one-tenth or less than its historic impact. The amount of land used to manage drilling fluids and produced water is dramatically reduced. The environmental risks are more directly and easily managed. Moreover, as the use of advanced techniques like horizontal drilling technology increases, fewer wells will be needed to generate the same amount of production. For example, prior to 2008, more than 31,000 annual new gas wells were required to sustain 58 BCF/d of gas production; now it is possible to produce almost 63 BCF/d with the drilling of only 19,000 new gas wells per year.

As described above, the DEIS justifications suggest that the underlying issue associated with the preferred alternative of no horizontal drilling is the use of hydraulic fracturing. Clearly, the development of shale gas and shale oil resources hinges on the use of horizontal drilling and hydraulic fracturing. The DEIS supporting documents demonstrate that there are no indications that hydraulic fracturing has caused any issues of environmental harm, that its regulated use protects against its environmental risk. Consequently, it turns the other linchpin of shale gas development—horizontal drilling. In reality, these technologies and the attendant regu-

latory structures or their use are proven, effective controls. In reality, the environmental groups opposing the development of American fossil fuels are the driving force in creating anxieties about both technologies and the regulatory programs managing their use.

The history of the hydraulic fracturing issue is illustrative. Hydraulic fracturing is a technique used to allow natural gas and oil to move more freely from the rock pores where they are trapped to a producing well that can bring them to the surface. The technology was developed in the late 1940s and has been continuously improved and applied since that time. In a hydraulic fracturing job, the fluid pumped into the well contains a proppant (usually sand) to keep the fracture open. This proppant collects inside the created fracture, so when the fracture tries to close, it cannot. The proppant holds it open.

State ground water regulation was developed long before hydraulic fracturing began. These regulations established well construction standards including steel casing and cementing requirements. They were designed to protect ground water from contamination by oil and its produced water. The environmental risks from oil and produced water are far more significant than those from a hydraulic fracturing solution that is 99.5 percent water and sand. These regulations created a control system that has effectively prevented contamination of drinking water, effective in the more than a million times that hydraulic fracturing has been used.

Years after state regulations protecting ground water were implemented, Congress enacted the Safe Drinking Water Act (SDWA) in 1974. By then, hydraulic fracturing had been used for 25 years with no environmental problems. Under the SDWA, states developed extensive Underground Injection Control (UIC) programs to manage liquid wastes and the reinjection of produced waters. These programs addressed liquids intended to be injected—and to remain—in underground geologic formations. By 1980 Congress—recognizing the need for further state flexibility—modified the SDWA to give states federal “primacy” based on comparable state oil and gas UIC programs.

At no time during these debates was there any suggestion of including hydraulic fracturing in the UIC waste management requirements. In the mid-1990s the Legal Environmental Assistance Foundation (LEAF), after years of failing to make an environmental case against coalbed methane development, petitioned the Environmental Protection Agency (EPA) to require Alabama to regulate hydraulic fracturing under the UIC program. EPA rejected LEAF, arguing that Congress never intended UIC to cover hydraulic fracturing. LEAF appealed to the 11th Circuit Court of Appeals.

In 1997, the 11th Circuit Court decided the *LEAF v EPA* case. The Court never addressed the environmental risks of hydraulic fracturing; it merely decided that the plain language of the statute included hydraulic fracturing as underground injection.

Not an issue at the time the SDWA passed, Congress did not specifically exclude hydraulic fracturing. Two decades later, a court ignored the facts of the issue and changed the scope of the law on a technicality.

However, in response to public concerns, EPA initiated a study of coalbed methane hydraulic fracturing environmental risks because these formations are situated closest to ground water. EPA released the completed study in June 2004. No environmental risks of proper hydraulic fracturing were identified.

Analysis of the environmental risks of the technology showed it to be safe, but the nation’s ability to develop its critical oil and natural gas was at risk because of the *LEAF* cases. Recognizing the need to provide legislative clarity and that the existing state regulatory system provided effective environmental protection, Congress addressed the issue of hydraulic fracturing under the SDWA in the Energy Policy Act of 2005.

The Energy Policy Act preserved the state regulatory system that has worked so effectively for the past half century. It clarified that the SDWA was not the appropriate regulatory law for hydraulic fracturing with one exception. During the analysis of environmental risk from hydraulic fracturing, EPA hypothesized that the use of diesel fuel as a solvent in the fracturing process of coalbeds might pose a risk. While no incidents of damage have occurred, Congress preserved the option for the application of the SDWA for regulation if diesel fuel was utilized. For five years following the 2005 SDWA amendments, EPA took no action under this new authority. Then, in 2010, without notice and comment, EPA posted on its website an interpretation that wells fractured using diesel fuel would be considered as Class II UIC wells—a position it had argued against in the *LEAF* cases. IPAA and others have challenged EPA’s website rulemaking and court action is pending.

Meanwhile, in 2009, the Ground Water Protection Council reviewed state regulations designed to protect water resources. It again concluded that these regulations

were adequately designed to protect water resources. Yet, later that year, Congress requested another EPA study of hydraulic fracturing; it is underway.

Emerging from the 2005 debate, a number of environmental groups initiated efforts throughout the country to create opposition to the use of hydraulic fracturing. Since no incidents of drinking water contamination have occurred from the use of hydraulic fracturing, these efforts could not credibly raise arguments of unmanaged environmental risk. Instead, the focus became an aggressive three pronged strategy. First, communities were inundated with allegations about the chemicals in the fracturing solutions—not that exposure had occurred, just that chemicals were used. Second, the existing regulatory process and the regulators were demeaned. Third, federalization is presented as the only acceptable solution.

The most visible aspect of this strategy is the recurring focus on disclosure of the chemicals used in the fracturing process. Natural gas and oil producers do not oppose the disclosure of the chemicals used in fracturing. However, because the chemical mixtures involve confidential business information, the execution of disclosure is not straightforward. Several states have initiated disclosure requirements. Recently, the GWPC and IOGCC started FracFocus—a website that will provide detailed information on the chemicals used in the fracturing process on a well by well basis. IPAA and other national oil and natural gas production trade associations have strongly endorsed FracFocus as the best approach to deal with a national registry on fracturing chemical disclosure. The primary issue, however, continues to be whether the regulatory process protects ground water resources since chemicals will always be a part of the production of oil and natural gas. With about one million operating oil and natural gas wells in the United States, tens of thousands of wells being drilled annually and only a small number of problem incidents, it is clear that the process is sound and effective.

Equally clear, the drumbeat of opposition to developing American oil and natural is taking a toll. Faced with a history of effective regulation, the opposition's principal strategy remains distorting the risks, demeaning the regulators and demanding federalization. Despite a record of supporting the development of both horizontal drilling and hydraulic fracturing through the Department of Energy over the past several decades, the current Administration now sends mixed and uncertain signals regarding the development of these American resources. Having primarily supported green energy paths that cannot grow fast enough to meet America's energy demand, it cannot now decide if it is willing to embrace the opportunities presented by American natural gas as a clean, abundant and affordable resource and the potential of expanding American oil production for the first time in decades. The George Washington National Forest Draft Environmental Impact Statement for the Revised Land and Resource Management Plan reflects this underlying Administration indecision.

Mr. LAMBORN [presiding]. All right. Thank you.
Mr. Mayer?

**STATEMENT OF CRAIG L. MAYER, ESQ., GENERAL COUNSEL,
PENNSYLVANIA GENERAL ENERGY, LLC**

Mr. MAYER. Chairman Thompson, Chairman Lamborn, thank you for inviting me to appear. By way of background, the Allegheny National Forest is located in Northwest Pennsylvania, and it shares 93 percent of its 513,000 acres with owners of private oil, gas and mineral estates and has done so since the forestlands were first acquired in the 1920s and 1930s.

The mineral development on this acreage is competently and rigorously regulated by the Pennsylvania Department of Environmental Protection. When the Forest Service acquired these acres, as well as most of the 20 million acres of Weeks Act lands now found in 42 states, it purposely did not purchase the oil, gas and mineral estates.

At the very heart of the matter is Section 9 of the 1911 Weeks Act. It, along with other safeguards in the Act, severely restricts or precludes the Forest Service from controlling the exercise of mineral rights or any other property rights that it did not acquire when it bought the surface lands from private citizens. Because it

now desires to control and even extinguish these rights, the Forest Service wants to effectively repeal and reverse the effect of Section 9 and has been attempting through various administrative maneuvers and artifices to do so.

With respect to the Allegheny National Forest, this began in early 2007. To date, its actions have spawned seven lawsuits, one administrative appeal of a Forest Plan, threats by armed Forest Service personnel to prosecute and arrest producers, one wholly baseless criminal charge, unwarranted and increasing delays in reviewing drilling notifications, decreased oil and gas production and economic hardship for hundreds of individuals, families and small businesses.

Forest Service efforts to impede development activities have been persistent and hostile. The string of actions even include, and I am not making this up, the Regional Forester for the Eastern Region organizing and appointing an Allegheny Oil and Gas Strike Team.

In March 2007, in a Forest Plan revision, Forest Service officers secretly crafted and then imposed a regulatory regime on private mineral estates. Only costly administrative appeals forced the Forest Service to acknowledge it had acted illegally in concealing this and not providing for public notice and comment and then to suspend application of its rules.

In March 2008, to stop mineral owners from quarrying road surfacing the Forest Supervisor, noting remarkably that the laws, regulations and policies had simply been misapplied for the previous 85 years, asserted United States ownership of all sandstone and shale rock found on the forest.

In December 2008, specifically in support of then pending litigation—by this point in time three cases had been filed—the national office initiated a rulemaking to impose a Federal regulatory regime on private oil and gas estates.

In April 2009, incredibly at the height of the most severe economic recession since the 1930s and again behind closed doors, it entered into an agreement with activist environmentalist groups to shut down new drilling across the entire forest. This was done in a sweetheart settlement agreement that included a very unusual clause, noting that the Forest Service just happened to possess unrestricted regulatory authority over private mineral estates.

Fortunately, a Federal Judge finding that the Forest Service did not possess such authority issued a preliminary injunction on December 15, 2009, blocking any further implementation of the agreement and lifting the drilling ban.

In early 2011, the Forest Service renewed its 2008 rulemaking effort. Again behind closed doors, it is once again taking action to grant itself regulatory authority along with drafting rules aimed at evading the December 2009 injunction by imposing costly and interminably lengthy NEPA requirements on wholly private development activities.

In closing, I believe that all stakeholders can use our natural resources in a way that effectively provides for jobs, energy security and environmental protection. Your Subcommittees are in the perfect place to help us achieve that. This is not the time for the Forest Service to continue its efforts and to increase the regulatory burdens on our citizens and small businesses.

Thank you very much for taking your interest in these issues, and I am prepared to respond to any questions.

[The prepared statement of Mr. Mayer follows:]

**Statement of Craig L. Mayer, General Counsel,
Pennsylvania General Energy Company L.L.C.**

I. Background and Introduction

1. Since 2004, I have been the chief legal counsel for Pennsylvania General Energy Company L.L.C. (“PGE”), which is headquartered in Warren, Pennsylvania. I also serve as a Secretary of the Pennsylvania Independent Oil and Gas Association (“PIOGA”). PGE is a member of PIOGA. PGE has approximately 150 employees and is engaged in oil and gas exploration and production, primarily in Pennsylvania, and it currently produces oil and gas from over 850 wells in the Allegheny National Forest (“ANF”) that have been developed over the past 25 years in an oil and gas field that was first discovered shortly after the Civil War. PGE owns approximately 40,000 acres of oil and gas lands in the ANF, and substantial oil and gas acreage elsewhere.

2. By way of personal background, I obtained a Juris Doctor degree from Duquesne University Law School in 1974, and am a graduate of the Pennsylvania State University (1968). From 1968 to 1992, I served in the U.S. Marine Corps in various command and staff postings, and I was honorably discharged with the rank of Lt. Colonel. As a civilian from 2000 to 2002, I served in association with seconded State Department personnel in Egypt and Israel as an International Observer and Team Leader with the U.S. Observer Unit of the Multi-National Force and Observers (“MFO”). The MFO monitors Egyptian and Israeli compliance with the Camp David Peace Treaty Accords.

3. The ANF encompasses approximately 513,000 acres which cover major parts of four counties in northwestern Pennsylvania, *i.e.*, Elk, Forest, Warren and McKean Counties. Notably, 93% of the ANF lands are underlain by private severed oil and gas mineral estates. When the ANF lands were acquired by the federal government in the 1920s and 1930s, the Forest Service purposely did not acquire the private oil and gas estates. In fact, under Section 9 of the 1911 Weeks Act, 16 U.S.C. § 518, before the United States could even purchase surface lands that had been severed from oil and gas estates before the time of the United States purchase, both the Secretary of Agriculture and the National Forest Reservation Commission had to find that such estates “*from their nature*” would “*in no manner interfere*” with the use of the land for the purposes of the Act. The Forest Service viewed oil and gas production as not in conflict with forestry management purposes, and that view continued until recently.

4. The ANF region is the birthplace of the oil and gas industry in Pennsylvania, the United States, and the world. The first oil well in the world, the Drake Well, was drilled in 1859, about 15 miles from the current southwestern ANF boundary. Oil and gas production has occurred in this region for well over a century, including on the ANF lands. It is a vital part of the culture of the communities in the region and our economic base. For example, PIOGA estimates that annually approximately 25% of the oil produced in Pennsylvania comes from estates within the ANF. There are approximately 60 producers and, at least, an equal number of supporting businesses who rely on natural resource development within the ANF, these groups being composed almost exclusively of individuals, families, and small companies. Traditionally, the U.S. Forest Service respected multiple use of the ANF and cooperated with oil and gas producers. This all changed beginning in 2007 and particularly so in early 2009, as I will describe. For the past few years, the people, municipalities and small businesses of northwestern Pennsylvania have been in a battle with the U.S. Forest Service for their livelihoods and economic survival. That battle is unfortunately ongoing.

II. The U.S. Forest Service’s 2009 Effort to Shut-Down Drilling and Economic Activity in the ANF

5. At the height of the most severe national recession since the 1930s, the U.S. Forest Service incredibly agreed behind closed doors in a “sweetheart” Settlement Agreement with the Sierra Club and other activist groups to *shut-down* new drilling across the entire 513,000-acre ANF. I am keenly familiar with the 2009 Settlement Agreement between the U.S. Forest Service and the Sierra Club, filed on April 9, 2009 in the case of *Forest Service Employees for Environmental Ethics (“FSEEE”) and the Sierra Club et al. v. U.S. Forest Service*, No. 1:08-cv-323-SJM (W.D. Pa.). PIOGA’s predecessor association and the Allegheny Forest Alliance (“AFA”), a group

of municipalities and school districts, were intervenors in the case, but had no knowledge of the terms of this harmful Settlement Agreement until the day it was filed in court, despite our prior requests made through our legal counsel to participate in settlement discussions. A Statement by ANF Supervisor Leanne Marten on April 10, 2009 (“Marten Statement”) implemented the Settlement Agreement. *Fortunately, as I explain later, on December 15, 2009, a federal judge granted a preliminary injunction to block the Settlement Agreement, and save our region from economic ruin.*

6. The 2009 Settlement Agreement adopted without any public input, particularly from elected officials of the ANF region, radically changed the legal regime applicable to oil and gas exploration and development activities in the ANF, by subjecting the Forest Service’s issuances of “Notices to Proceed” for oil and gas wells to burdensome compliance with the National Environmental Policy Act of 1969, 42 U.S.C. § 4332 (“NEPA”). Section 102(2)(C) of NEPA requires federal agencies to prepare an Environmental Impact Statement before carrying out “major Federal actions significantly affecting the quality of the human environment.” Under the Settlement Agreement, the Forest Service sought to bind itself to apply NEPA to each individual Notice to Proceed, which had previously been a mere notice of the conclusion of a 60-day consultation process, not a federal permit document.

3. A 1991 U.S. Congressional hearing fortunately documented the past cooperative practices of the U.S. Forest Service regarding oil and gas activities in the ANF, which viewed NEPA as inapplicable to the exercise of private mineral estates. In the 1991 House Oversight Hearing, Subcommittee Chairman Kostmayer reviewed the Forest Service’s practices regarding ANF mineral development. *See Oil and Gas Operations in the Allegheny National Forest, Northwestern Pennsylvania, Oversight Hearing Before the Subcomm. on Energy of the House Comm. on Interior and Insular Affairs*, 102d Cong., 1st Sess. (1991), at 1–6 (“1991 Oversight Hearing”). At the hearing, the Forest Service stressed its limited legal authority as a matter of property law, agency practice, and a 1980 federal court ruling in *United States v. Minard Run Oil Co.*, No. 80–129, 1980 LEXIS 9570 (W.D.Pa. Dec. 16, 1980). 1991 Oversight Hearing at 50–128, 138–255. For example, former ANF Forest Supervisor Wright’s written statement said that:

Our land management decisions cannot preclude the ability of private mineral owners to make reasonable use of the surface for mineral exploration and development activities, since such rights are defined by the private mineral deed and public law. Our challenge is to protect the rights of the Federal Government, while respecting private mineral rights, and ensuring that private mineral owners and operators take reasonable and prudent measures to prevent unnecessary disturbance to the surface....

1991 Oversight Hearing at 54–55 (emphasis added). He added: “*We do not give people permission to drill. That is their right. It is not a Federal action. . . . We review the plan and negotiate a plan with them. We do not approve a plan....*” 1991 Oversight Hearing at 75–79, 113 (emphasis added).

4. The 1991 Oversight Hearing record on the ANF provided an official summary of a U.S. Agriculture Department Office of General Counsel opinion, dated October 1991, concluding that NEPA does not apply to exercise of “outstanding” mineral rights:

[W]e do not find that exercise of such rights on National Forest land in Pennsylvania to be a federal action for NEPA purposes. This is so, in part, because Forest Service approval is not a legal condition precedent to the exercise of such rights under either state law, current federal law or regulation, or Forest Service Policy. See for example FSM 2832.

The question of whether the right can be exercised, and the ability to deny that right, is simply not left to the surface owner under Pennsylvania law! A “reasonable use” standard does govern the exercise of such rights, but it also recognizes the limited role of the surface owner in the process. In other words, if the exercise of such rights extends beyond what is reasonable, as was the situation some years ago in the instance of Minard Run, then your recourse is to move to protect your rights as surface owner, to reach a reasonable accommodation so that each may enjoy their respective rights... That practice does not elevate your involvement to a federal action for NEPA purposes.”

1991 Oversight Hearing at 192–93 (emphasis added). This was the way things worked for decades on a cooperative basis in the ANF, and on the other 22 million

acres of land of National Forests with private mineral estates acquired under the 1911 Weeks Act, 16 U.S.C. § 518.

5. The 2009 Settlement Agreement sought to change entirely the governing legal regime and practices without any corresponding change in the applicable law and regulations. This is confirmed by the Statement from Forest Supervisor Leanne Marten, dated April 10, 2009, which declares that *“All remaining pending, and all future, oil and gas proposals on the Allegheny National Forest will be processed after the appropriate level of environmental analysis has been conducted under NEPA.”* Forest Service officials publicly confirmed that new oil and gas drilling activities could not be carried out *until a full Forest-wide EIS under NEPA is completed* and a Notice to Proceed is issued. *Of course, we understood that a forest-wide EIS would be a multi-year process, likely taking at least four to five years, and more before appeals were resolved.*

6. Accordingly, the Settlement Agreement imposed a *de facto* drilling ban in 2009 on future oil and gas exploration and development across the entire 513,000-acre ANF for years into the future. The U.S. Forest Service sought to enforce the drilling ban with a heavy hand. Within two weeks of announcing the Settlement Agreement, it created what was called an “Allegheny Oil and Gas Strike Team” and issued unlawful “requests” for information from oil and gas operators and imposed processing delays if they did not respond. In early 2009, shortly after the FSEEE case was commenced, the Forest Service charged at least one individual officer of an oil and gas company with a misdemeanor, a case the government never ultimately pursued. As a former military and federal prosecutor, and being well versed in the applicable law, this misdemeanor matter appeared to me to be a deliberate abuse of Forest Service petty offense enforcement authority. It was perfectly clear from the fact situation that there was no basis upon which to allege a criminal offense. To protect PIOGA members from the abuse of the criminal process, I took the measure of preparing a legal memorandum strongly objecting to this behavior and sent it to both the U.S. Attorney’s Office and the Pennsylvania Attorney General’s Office. Sadly, in the past four years, employees and owners of oil and gas businesses have been threatened by the Forest Service with criminal prosecution if they proceeded with their ordinary business activities in the ANF. To my knowledge, the Forest Service threatened at least four individuals. It was particularly troubling for me to learn of Armed Forest Service personnel confronting citizens, prominent leaders in our communities, engaged in lawful oil and gas development activities and directing them to cease, or face arrest.

7. Notably, the April 10, 2009 Statement by Forest Supervisor Marten admitted the severe adverse economic impact which the Settlement Agreement would have on the local communities surrounding the ANF. The Marten Statement (at p. 1) stated in part as follows: *“we acknowledge the impact this will have on families and businesses, especially at a time when our nation is facing such a difficult economic downturn.”* The Marten Statement (at p. 1) makes the following additional points: *“There is no easy explanation of why this is occurring...For some, this impact may be short-term and for others it may be a lifetime.”*

8. I firmly believe the 2009 Settlement Agreement was punitive, even retaliatory, in nature. If it remained in force, it would have had an irrevocable, profound, massive, and devastating adverse impact on oil and gas production activity in the ANF and upon the economy, communities, and people of the surrounding region dependant on this development activity. Fortunately, a federal court intervened in late 2009 and blocked the unlawful drilling ban, as I will now explain.

III. The December 15, 2009 Judicial Relief Granted by Federal Judge Sean McLaughlin

9. On December 15, 2009, a federal judge in western Pennsylvania, the Honorable Sean J. McLaughlin, granted a preliminary injunction against the U.S. Forest Service and the Sierra Club, barring the implementation of the 2009 Settlement Agreement. *See Minard Run Oil Co. and Pennsylvania Oil and Gas Association. v. U.S. Forest Service, et al.*, 2009 WL 4937785 (W.D. Pa. 2009). Judge McLaughlin wrote a detailed opinion finding that the Settlement Agreement was likely contrary to law, contrary to the Forest Service’s past practices, and causing irreparable harm to oil and gas businesses in the ANF region. He issued his ruling following a three-day evidentiary hearing where he heard testimony from approximately 15 witnesses, including PGE’s President Douglas Kuntz, all subject to cross-examination.

10. Judge McLaughlin’s opinion concluded that the *“Forest Service does not possess the regulatory authority that it asserts relative to the processing of oil and gas drilling proposals.”* He added that consequently, *“its involvement in the approval process does not constitute a major federal action requiring NEPA compliance.”* Judge McLaughlin found that the *“continued denial of access to privately held prop-*

erty rights and the irreparable harm flowing therefrom if the injunction is denied, imposes a far more significant hardship on...[the oil and gas companies] than would a return to the status quo on the Forest Service.” Judge McLaughlin also stated that there was a “clear public interest in preventing unreasonable interference with private property rights.” Accordingly, he granted a preliminary injunction, barring implementation of the Settlement Agreement and directed an immediate return to prior practices which had been the status quo.

11. We are very grateful for the judicial relief provided by Judge McLaughlin, but the U.S. Forest Service still resisted and moved for reconsideration of his ruling, which he denied on March 9, 2010, following an additional hearing in his court. Not content with adhering to the Judge’s preliminary injunction ruling, both the U.S. Forest Service and the Sierra Club appealed the preliminary injunction order to the U.S. Court of Appeals for the Third Circuit, which heard argument on the appeal sitting in Philadelphia in late January, 2011. Fortunately, the judicial relief provided by Judge McLaughlin has remained in force while that appeal is pending, and we expect a ruling any time now.

IV. Forest Service Actions in 2007 and 2008 Leading up to the Settlement Agreement

12. Sometime between publication of ANF’s draft revised Forest Plan in 2006 and approval of the final plan in March 2007 the Forest Service attempted to insert a regulatory scheme into its Forest Plan. This was done under the guise of modifying planning “standards” and “guidelines,” that included, among other things, a new and unprecedented federal permit requirement for regulating the conduct of privately owned and state regulated oil and gas development. PIOGA and many of its individual members promptly appealed this action through administrative channels. As the regulatory scheme was clearly added to the Plan secretly and concealed from the public the Forest Service was forced to acknowledge that it had acted illegally. To remedy its failings it issued an Appeal decision in February 2008 that suspended application of the scheme until public notice and comment requirements were satisfied and the Forest Service’s authority for imposing a new layer of regulations in the first place was “clarified.” As the PIOGA objected to approval and imposition of a federal regulatory scheme in the first instance, and the Forest Service appeal decision formally approved the regulatory scheme, it was no comfort to learn that all the Forest Service’s was going to do was paper-over its illegal conduct by providing a meaningless public comment period and giving itself the opportunity to clean-up (*i.e.*, “clarify”) language found in the Plan that was inconsistent with its new found regulatory authority. PIOGA challenged this conduct in the case of *Pennsylvania Oil and Gas Association v. U.S. Forest Service*, No. 1:08-cv-162-SJM (W.D. Pa.). That case has been stayed pending issuance of the Third Circuit decision noted above.

13. While directing itself to suspend application of its regulatory scheme on the ANF the Forest Service was still committed to impeding private oil and gas development. On March 28, 2008, and within six weeks of the Appeal decision Forest Supervisor Marten, repudiating over 85 years of practice and legal precedent, issued a letter decision prohibiting oil, gas, and mineral owners from using certain “mineral materials” found on their private mineral estates. Remarkable in its denouncement it proclaimed that “*It has come to my attention that the application of the laws, regulations, and policies governing the disposal of mineral materials off of National Forest System lands have not been appropriately applied on the Allegheny National Forest.*” It then proceeded, by reference to a long-existent Forest Service regulation that applies only to a certain category of federally owned minerals, to claim ownership of all minerals in that same category that were, as well, found on privately owned mineral estates. This was done regardless of what deeds or state property laws prescribed to the contrary. Effectively, the Forest Service attempted to confiscate as many as 483,000 acres of certain privately owned minerals with nothing more than a bureaucratic edict. The purpose of the edict was to prevent mineral owners from using stone for the surfacing of oil and gas roads and well pads.

14. In the fall of 2008 When PGE advised Forest Supervisor Marten that it was going to explore for and take sandstone and shale on lands for those purposes and where PGE had been conveyed the named minerals PGE was invited to file a “claim” under the federal Quiet Title Act. In 2008, when one mineral owner indeed did file an action under the Quiet Title Act regarding stone ownership, the Forest Service promptly invoked the twelve year (12) statute of limitations that accompanies the Act and asserted that it had somehow managed to have notified the owner of its claim to the stone over 12 years before the mineral owner filed suit. As a consequence, certainly not lost on the Forest Service, if the District Court concludes that the statute of limitations applies and has run, the mineral owner could

not maintain a claim and would forfeit his mineral rights. This would be so even if it was perfectly clear from the deeds and Pennsylvania law that the mineral owner owned the stone. I am confident that this legal ruse was not one of the methods of land acquisition to which the state of Pennsylvania consented when it authorized the United States to acquire private lands from its citizens. The case I referred to is *PAPCO v. U.S. Forest Service*, No. 1:08-cv-253-MBC (W.D. Pa). The District Court decision in that case is pending.

15. While the ANF was adjusting to the suspension of its regulatory scheme the processing time for Forest Service responses to drilling notifications was showing little improvement from what producers had experienced in 2007. Following the approval of the Forest Plan in March 2007 processing response times had quickly expanded from 60 days or less to five and six months. In short, even with the suspension, there was continued resistance and opposition to accommodating oil and gas development. In the lead-up to the filing of the FSEEE case this found expression in an internal Forest Service e-mail dated October 8, 2008 where Forest Service Officers were considering, among other things, notifying “recreational stakeholders” of oil and gas developments that the ANF objected to such that it might result in a suit against the Forest Service “*based upon a failure to perform NEPA analysis.*” Within six weeks, such a suit just happened to materialize when the FSEEE filed against the Forest Service on November 20, 2008.

V. Continued and Increasing U.S. Forest Service Slow-Down of Processing Drilling Proposals and new Obstructions

16. Judge McLaughlin’s opinion of December 15, 2009 found that *60 days* was the traditional timeframe allowed for the Forest Service to process well drilling proposals and consult with operators about desired surface mitigation measures. Since shortly after the entering of the Court’s preliminary injunction in December 2009, the Forest Service has provided me (in response to FOIA requests) with bi-weekly or monthly reports showing statistics related to the processing of private oil and gas development (“OGD”) notifications on the ANF. We have tabulated the data to calculate the time it is taking for the ANF to process the OGD notifications that the ANF has received since the issuance of the court’s injunction on December 15, 2009. The statistics show that on average it is now taking *over seven months* for the ANF to process or deal with notifications before it issues a “Notice to Proceed,” and that *since July 15, 2010 the processing time has expanded from four months to the current seven months.*

17. Simply put, these continuing and increasing delays by the U.S. Forest Service are excessive and not consistent with past procedures and the 60-day timeframe that was previously adhered to by the ANF. *Apparently, the timely processing of drilling proposals to enable job creating activity is not a priority with this U.S. Forest Service, even when a federal court order directs that this be done.*

VI. The U.S. Forest Service Rulemaking Effort

18. Beyond this, the Forest Service has been seeking ways through a rulemaking process to evade the Judge McLaughlin’s ruling which granted critically needed relief to us. Specifically, they have initiated a rulemaking process which would seek to grant themselves regulatory authority which the Judge has found they lacked. The Forest Service first started this process back in December 2008 with the initiation of an Advance Notice of Proposed Rulemaking in the *Federal Register*. See 73 *Fed. Reg.* 79,424 (Dec. 29, 2008) (re “Management of National Forest System Surface Resources with Privately Held Mineral Estates”). That notice and comment rulemaking would specifically address the ANF, and other National Forests. Any such rulemaking would have to comply with the Administrative Procedure Act, 5 U.S.C. § 551 *et seq.*, and other procedural and substantive requirements, such as the Regulatory Flexibility Act, 5 U.S.C. § 601 *et seq.*, which requires federal agencies to assess the adverse economic impacts of their actions on small businesses, and the Paperwork Reduction Act, 44 U.S.C. § 3501, *et seq.*, which aims to minimize paperwork burdens on those who must respond to federal government requests for information. By seeking to adopt a new command and control regulatory approval process and impose burdensome NEPA review requirements, the Forest Service is effectively seeking to evade the ruling of the federal court.

19. By way of a FOIA request we obtained a copy of the Forest Service’s internal Regulatory Review Workplan that was used as justification for issuance of the “Non-Significant” designation that accompanied the December 29, 2008 Advance Notice of Proposed Rulemaking. The entire Workplan consists of a five page form with fill-in the blank and check the box styled entries or statements. It has no supporting documentation. After a careful review, on January 5, 2011, PIOGA requested the USDA Office of Inspector General to investigate the preparation of this document

as it appeared to contain false statements. I understand that that investigation is now in progress.

20. As recently as the fall of 2010 in the *Unified Agenda of Federal Regulatory Actions*, the Forest Service identified this private mineral estate rulemaking as still proceeding, and incredibly claimed that it would not cause adverse economic impacts on small business entities. We have obtained through FOIA requests a copy of a Forest Service summary of the rulemaking that was underway as of early 2011 when the Forest Service was consulting with hundreds of Native American tribes about the rulemaking. A copy of that U.S. Forest Service summary, dated February 9, 2011, along with U.S. Forest Service letters dated January 27, 2011 and March 21, 2011, are attached to this testimony and establish that draft proposed rules have been in existence since at least January 27, 2011. Yet, the Forest Service has not consulted with the Congress, the Commonwealth of Pennsylvania, and PIOGA, about the rulemaking.

21. At the April 5, 2011 hearing of the House Sub-committee on Energy and Natural Resources Congressman Thompson asked a testifying Forest Service Official, the Director of Minerals and Geology Management, the status of the regulation that the Forest Service was drafting about private mineral estates. Remarkably and dishearteningly, the witness denied that there was a draft of the proposed rules.

22. As the Forest Service summary dated February 9, 2011, reveals, the draft rulemaking would seek to impose the NEPA process on the exercise of private mineral estates in National Forest lands, something which the federal court has declared unlawful. Furthermore, this rulemaking would apply to mineral estates nationwide, not merely in Pennsylvania, and would impose widespread multi-year prohibitions on oil and gas activity while costly NEPA studies were prepared. This would include National Forests with prospective oil and gas interest in the States of Pennsylvania, Ohio, West Virginia, Virginia, Kentucky, Tennessee, Louisiana, Texas, Indiana, Michigan, and North Dakota, among others.

23. The Governor of Pennsylvania, Tom Corbett, has recently expressed his strong concerns about this U.S. Forest Service rulemaking in a letter dated June 14, 2011 to the Chief of the U.S. Forest Service, and a copy of that letter is attached to my testimony. In addition, Pennsylvania State Senator Mary Jo White, who is Chair of the Pennsylvania Senate Environmental Resources and Energy Committee, has expressed her strong concern about this rulemaking to Secretary of Agriculture Vilsack and Forest Service Chief Tidwell in a letter dated March 31, 2011, a copy of which is attached to this testimony as well.

24. Finally, in closing, I would be remiss if I didn't refer the Sub-committees to language penned 100 years ago that speaks loudly and clearly to us today. On April 15, 1910 in what would be the last in a decade-long line of proposed forest reserve bills and Congressional reports leading up to the passage of the Weeks Act the House Committee on Agriculture issued a warning and as we know now—a prophecy. Following brief descriptions of each of the 15 sections of the act the Committee noted: *"It will be observed from this review of the provisions of the bill that the interests of the people are carefully safeguarded at every point beyond any possibility of invasion, except by collusion of highest officials of the legislative, executive, and administrative branches of the Government."* House Report # 1036, Committee on Agriculture, April 15, 1910, to accompany H.R. 11798, at page 2.

On behalf of PGE and PIOGA and in furtherance of seeing that the interests of the people of Pennsylvania are not further invaded, I thank the members of the sub-committees here today for your interest and help on these issues which are of vital importance to northwestern Pennsylvania, and many other regions of our nation.

Attachments:

1. Forest Service Proposed Rulemaking Summary, dated February 9, 2011.
2. Pennsylvania Governor Tom Corbett Letter to U.S. Forest Service Chief Tidwell, dated June 14, 2011.
3. Pennsylvania Senator Mary Jo White Letter to USDA Secretary Vilsack and U.S. Forest Service Chief Tidwell, dated March 31, 2011.

[NOTE: Attachments have been retained in the Committee's official files.]

Mr. LAMBORN. Thank you.
Ms. Wofford?

**STATEMENT OF KATE GIESE WOFFORD,
EXECUTIVE DIRECTOR, SHENANDOAH VALLEY NETWORK**

Ms. WOFFORD. Thank you for the opportunity to comment. It is truly an honor for me to have the chance to be a witness this afternoon.

My name is Kate Wofford, and I serve as Director of the Shenandoah Valley Network. We work with local citizens groups to preserve rural lands and communities in the Shenandoah Valley. The Network is a very small nonprofit. I am the only full-time staff member.

I hope today to provide the Valley's unique perspective on natural gas drilling, particularly the strong support among elected officials and area residents for a ban on horizontal drilling in the George Washington National Forest.

Public lands on the George Washington make up a quarter of the land in three Valley counties and serve as a source of local drinking water for a quarter of a million people in and around the Valley. The forest provides many benefits to the region and to the country, traditional uses like hunting, fishing and hiking, as well as wildlife habitat and timber resources.

Since 2007, long before natural gas drilling emerged as a possibility, the Valley's elected officials and residents started asking forest planners to formally identify and protect the public drinking water source on the forest. Seven counties, plus numerous towns, cities and civic groups, adopted formal resolutions urging the Forest Service to carefully manage drinking water quality and supply.

Later, in 2010 when the Valley was faced with its first proposal for a Marcellus shale natural gas well, the local leaders took a conservative and cautious approach. Rockingham County officials drove five hours each way to visit Wetzel County, West Virginia, where this type of gas drilling is in full swing. They took along one of the citizen leaders I work with, Kim Sandum.

Not one person on the trip came back to Rockingham County and said this is an industry we would like to develop here. In fact, local governments in the farm community have concerns that horizontal drilling may be incompatible with the investments of our region's traditional rural sectors and could actually do more harm than good.

The Rockingham County Farm Bureau adopted a resolution this spring supporting natural gas development, but opposing high volume hydraulic fracturing. Not surprisingly, when the opportunity to influence management of the public forestlands came up again last fall, localities in the Valley asked the Forest Service to limit or ban hydraulic fracturing.

Rockingham, Augusta and Shenandoah Counties, as well as city councils in Harrisonburg and Staunton, all wrote letters or passed resolutions. Numerous local citizens expressed similar concerns. Thankfully, the forest planners carefully studied the issue and responded with a proposal that reflects local concerns, a prohibition on horizontal drilling on Federal lands, oil and gas leases.

We have a landowner at the hearing here this morning in the audience, Mr. Everett May, Jr., from Rockingham County. His family has farmed land next to the George Washington for several genera-

tions. Mr. May signed a lease for gas drilling in 2006 thinking it would be a simple vertical well. Then he found out about the potential impacts of Marcellus shale gas drilling, and he told me that he would give that lease back if he could. But he can't.

So Mr. May and many of his neighbors asked the county supervisors to see that a conservative approach is taken on private lands, and they asked the Forest Service to make sure that this kind of gas drilling didn't happen on the George Washington.

I believe that the local government and the landowner messages from the Valley on horizontal drilling were not intended to be political statements on oil and gas production on public lands elsewhere. They were directed to the George Washington, and they ought to be taken at face value. Citizens in the Shenandoah Valley have observed the impacts of Marcellus shale gas development in other communities and have decided that a cautious approach is warranted.

That concludes my statement, and I welcome questions. Again, thank you for the opportunity to be here.

[The prepared statement of Ms. Wofford follows:]

**Statement of Kate Wofford, Executive Director,
Shenandoah Valley Network**

Thank you for the opportunity to comment. It is an honor to be here this morning.

My name is Kate Giese Wofford and I serve as executive director of the Shenandoah Valley Network of citizens groups in the Valley's six northern counties. I work with residents and their elected officials to preserve rural lands and communities, and to strengthen the Valley's rural economy. The Network is a non-profit group and I am the only staff member.

I am here today to provide the Valley's unique perspective on natural gas drilling; particularly the strong support among elected officials and area residents in Rockingham, Shenandoah and Augusta Counties and the cities of Harrisonburg and Staunton for a ban on horizontal drilling in the George Washington National Forest.

I'd like to cover several points:

- The northern Shenandoah Valley is conservative, cautious and, at times, skeptical. I find that residents and local elected officials take their time and do their homework before they come to a decision or embrace anything new.
- The George Washington National Forest represents 29 percent of all the land in Augusta County and 24 percent in Rockingham and Shenandoah County and provides public drinking water to 260,000 residents in and around the Shenandoah Valley. Therefore the Forest Management Plan will have a major impact on local land use and water supplies for at least 15 years.
- Since 2007, long before natural gas drilling emerged as a possibility, the Valley's elected officials and residents started asking forest planners to formally identify and protect the public drinking water sources on the George Washington National Forest. In total, 40 local governments and civic organizations adopted formal resolutions urging the Forest Service to specifically manage public drinking water quality and supply. Supervisors in seven Shenandoah Valley counties and council members in four towns and two cities, representing over 340,000 citizens, submitted such resolutions. These requests were heard, and drinking water resource identification and some new protections are included in the draft forest plan.
- The northern Shenandoah Valley has not sought to embrace and has no history of intensive energy development on its rural lands. In fact, local governments have long-supported rural economic development based on productive working farm and forest lands and robust tourism and recreation sectors.
- Last fall, elected officials in the three northern Shenandoah Valley counties and on the two city councils specifically asked the U.S. Forest Service to ban or place a moratorium on horizontal natural gas drilling to protect both public drinking water and/or rural lands. This spring, Rockingham County Farm Bureau adopted a resolution supporting natural gas development, but opposing high volume hydraulic fracturing until its impacts on agriculture are well un-

derstood. Many local citizens groups and conservation organizations have expressed similar concerns.

- The draft George Washington National Forest Management Plan, with the ban on horizontal natural gas drilling, reflects both the careful analysis conducted by the forest and the policies and priorities of local governments and residents in these counties. It is not a precedent for other parts of our nation.

The Shenandoah Valley has a strong base of traditional rural businesses like farming, timber, tourism and recreation. Small-scale natural gas production has been minimal, with conventional vertical wells that had little impact on local farms or forests.

Therefore, in 2010, when the Valley was faced with its first proposal for a Marcellus Shale natural gas well, the local officials took a thoughtful and cautious approach. Rockingham County officials drove five hours each way to visit Wetzel County, WVA where this type of gas drilling is in full swing. They took along one of the citizen leaders I work with, Kim Sandum.

In Wetzel County, they saw farm land bulldozed for wastewater holding ponds and drilling pads, narrow rural roads chewed up by heavy truck traffic, extensive pipeline development on farm and forest land, compressors that run all night and mountain streams sucked dry to provide millions of gallons of water used for drilling.

Rockingham officials talked to landowners and emergency response crews. Not one person on the trip came back from Rockingham County and said “This is an industry we’d like to develop in the Shenandoah Valley.” Later, when the possibility for shale gas drilling on public lands came up, local officials remained skeptical.

I’ve brought with me the letters sent to the U.S. Forest Service last fall, requesting a moratorium or ban on horizontal drilling by the three counties and two cities. To quote from a Sept. 16, 2010 letter from the county:

“Rockingham County is supportive of the development of alternative energy resources located at a site that is appropriate for its use, with appropriate levels of regulation and oversight, and on private lands. The Board does not support the commercialization of natural resources in the National Forest or National Park lands, other than the limited timber sales program, through mining, extraction and other industrial means.”

As I said earlier, the Valley’s local governments and private sector have been investing for generations in traditional rural land uses based on its extraordinary natural, historic and cultural resources: farming, forestry, tourism and recreation. They have no history of, or strategy for, economic development based on heavy energy development on rural lands.

In fact, local governments and the farm community have concerns that horizontal drilling is incompatible with the investments made in our region’s traditional rural sectors and could actually do more harm than good. The Rockingham County Farm Bureau adopted a resolution in the spring supporting natural gas development, but opposing high-volume hydraulic fracturing. Our tourism folks are looking to fill local restaurants and hotels with visitors enjoying the national forest, Shenandoah National Park and our world-famous rivers and Civil War battlefields.

Thankfully, the Forest planners carefully studied the issue and responded with a proposal that respects local concerns—a prohibition on horizontal drilling on federal lands oil and gas leases. This restriction is viewed in the Valley as a middle-of-the-road proposal.

It does not impact the potential for vertical gas drilling on almost 1 million acres of the Forest, nor does it affect the potential for natural gas drilling on private lands or privately held mineral rights on the forest. And the ban would not be permanent. It’s part of a 10–15 year management plan. Forest planners have made it very clear that if gas drilling on private land demonstrates that our local natural gas resource is developable and can be done without impact to water quality, the Forest would reconsider the issue.

We have a landowner at the hearing this morning, Mr. Everett May, Jr. from Rockingham County, whose family has farmed land next to the George Washington National Forest in Virginia and West Virginia for several generations. Mr. May signed a lease for Marcellus shale gas drilling in 2006, thinking it would be a simple vertical well. Then he learned about impacts of this industry in other communities. He told me that he would give that lease back if he could. But he can’t. So he, and many of his neighbors, asked the County Supervisors to see that a conservative approach is taken on private lands and asked the Forest Service to make sure that this kind of gas drilling didn’t happen on public lands.

From a personal perspective, I got to know the Shenandoah Valley well when I went to college at Washington & Lee University in Lexington. Before returning to the Valley three years ago, my family and I lived in Idaho for 5 years. I worked

with coalitions of landowners, ranchers, and government officials on public lands policies. Out west, I saw first hand the frustration among local people and elected officials over public land managers' lack of responsiveness to the priorities of local communities.

In this plan from the George Washington National Forest, the Forest Service listened and, in large part, followed the requests of nearby localities. There are new provisions to identify and monitor source areas for public water supply, a high priority for Valley communities and a topic that was not addressed in the 1993 Plan. And, of course, the ban on horizontal drilling is also consistent with citizen concerns about a new industry.

I believe that the local governments and landowner messages from the Valley on horizontal drilling were not intended to be political statements on oil and gas production on public lands elsewhere. They were directed to the George Washington National Forest and ought to be taken at face value. Citizens in the Shenandoah Valley have observed the impacts of Marcellus shale gas development in other communities and have decided that a cautious approach is warranted.

Again, thank you for the opportunity to provide a perspective from the Shenandoah Valley.

Attachments for the record, submitted by email:

Rockingham County letter to Ms. Hyzer
 Augusta County letter to Ms. Hyzer
 Shenandoah County resolution
 City of Harrisonburg letter to Ms. Hyzer
 City of Staunton resolution
 Rockingham County Farm Bureau resolution

[NOTE: Attachments have been retained in the Committee's official files.]

Mr. LAMBORN. All right. Thank you.
 Ms. Mall?

**STATEMENT OF AMY MALL, SENIOR POLICY ANALYST,
 NATURAL RESOURCES DEFENSE COUNCIL**

Ms. MALL. Thank you, Mr. Chairman and Members of the committee. I am Amy Mall, a Senior Policy Analyst with the Natural Resources Defense Council or NRDC.

NRDC is not opposed to natural gas as a fuel. Natural gas is cleaner burning than other fossil fuels and can help in a transitional role as our nation shifts to a cleaner energy future. But the nation's use of natural gas must be efficient, and natural gas must be produced by methods that best protect clean water, clean air, land, the climate, human health and sensitive ecosystems.

Cases of contaminated water, unhealthy air pollution and scarred landscapes are too common in the rush to develop natural gas. Some say this industry is mature and has sufficient safety and environmental standards in place, but today's oil and gas well is not your grandfather's oil and gas well. Wells are deeper, drilling is more intensive and there are growing concerns about impacts to wildlife, human health, communities and public lands.

The George Washington National Forest is an extremely popular location for hunting, fishing, hiking, camping and other outdoor pursuits and, as was mentioned earlier, it is home to the headwaters of the Potomac River, which help supply drinking water here in Washington, D.C. It appears that the U.S. Forest Service has correctly taken a precautionary approach in assessing the potential impacts from natural gas production on water and other natural resources in the George Washington National Forest before moving forward to approve any new drilling.

While there is growing understanding of the environmental impacts of oil and gas development, much remains unknown. There has been little scientific investigation into the wide range of potential environmental impacts from this very complex industry. Federal agencies therefore have begun conducting their own inquiries into various aspects of oil and natural gas operations.

For example, Forest Service research in West Virginia found that forests suffer permanent changes from drilling operations, including ineffective erosion controls and toxic waste disposal methods that kill vegetation. The researchers found that unexpected impacts could not be carefully controlled, planned for or mitigated.

The U.S. Geological Survey (USGS) has found that the knowledge of how horizontal drilling and hydraulic fracturing might affect water resources has not kept pace with the expanded use of these technologies. The USGS stated that, and this is a quote, “Agencies that manage and protect water resources could benefit from a better understanding of the impacts that drilling and stimulating Marcellus shale wells might have on water supplies.”

Clearly many uncertainties remain, but drilling on Federal lands continues to proceed apace across the country. The Bureau of Land Management has been approving permits, and there are more than 38 million acres of land onshore leased for oil and gas by the BLM. While some places may be appropriately protected, this is a small minority of parcels.

We are concerned that current regulations, as well as enforcement capabilities, are insufficient. Federal environmental laws, including the Clean Air Act, Safe Drinking Water Act and Clean Water Act, have gaping loopholes for the oil and gas industry that need to be closed. For example, the Clean Water Act definition of pollutant excludes hydraulic fracturing fluids under certain circumstances, and hydraulic fracturing is also exempt from the Safe Drinking Water Act.

While the Department of the Interior has announced some new procedures to improve review of parcels proposed for leasing, something that we strongly support, the agency has not put the strong rules we need into place to require new practices that best minimize environmental impacts.

Drilling on Federal lands must also abide by state rules, but state rules are also woefully inadequate in most locations. For example, the West Virginia Secretary of Environmental Protection recently said that the state’s regulations for Marcellus gas wells is “inadequate” and that the agency hasn’t fully considered drilling’s aggregate effects on water, air, roads, public health and safety.

This is not a partisan issue. A Republican candidate for Governor in West Virginia recently stated that West Virginia needs new regulations to protect communities, state roads and the environment, and it is clear from blowouts during frac jobs in Pennsylvania recently—there have been several in the last I think two years—that the industry does not always use the safest practices.

States and Federal agencies are also not staffed to fully enforce the current laws on the books. Virginia had less than 10 enforcement staff in 2008 for 6,000 wells. West Virginia, the most recent report was that there are 12 inspectors for 59,000 wells. The GAO reported earlier this year that the Department of the Interior con-

tinues to experience problems in hiring, training and retaining sufficient staff to provide oversight and management of oil and gas operations on Federal lands and waters.

In conclusion, it is clear to us that we need more science and research, stronger rules and better enforcement to protect the public health and our natural resources from the risks of natural gas development. We urge the committees to work with others in Congress and make sufficient funds available to Federal agencies to ensure they have the resources they need for these essential activities. Thank you.

[The prepared statement of Ms. Mall follows:]

**Statement of Amy Mall, Senior Policy Analyst,
Natural Resources Defense Council**

Chairmen and Members of the Committees, thank you for inviting me to testify today. I am Amy Mall, a Senior Policy Analyst with the Natural Resources Defense Council, or NRDC. NRDC is a non-profit organization of scientists, lawyers, and environmental specialists founded in 1970 and dedicated to protecting public health and the environment, supported by more than 1.2 million members and on-line activists.

I want to state up front that NRDC is not opposed to natural gas. Natural gas is cleaner burning than other fossil fuels and can help in a transitional role as our nation shifts to a cleaner energy future. But the nation's use of natural gas must be efficient, and natural gas must be produced by methods that best protect clean water, clean air, land, the climate, human health and sensitive ecosystems. More needs to be done in order to approve oil and gas exploration and production. Cases of contaminated water sources, unhealthy air pollution and scarred landscapes are too common in the rush to develop natural gas resources.

Oil and natural gas exploration and production have been going on in the United States for almost 200 years. Some say that this history means the industry is mature and has sufficient safety and environmental standards in place. But today's oil and gas industry is not your grandfather's oil and gas industry. Wells are deeper, drilling is more intensive, hydraulic fracturing introduces more pressure into wells, a lot more resources are used such as water and chemicals, enormous amounts of toxic waste are generated and must be managed, extensive heavy industrial machinery and equipment generates noise and toxic air pollutants, and there are growing concerns about impacts to wildlife, human health, communities and public lands.

As a resident of Washington, D.C., I have visited the George Washington National Forest many times. So have millions of other people, including many from urban areas seeking fresh air and nature; the national forest hosts more than one million people per year, with more than 9 million people living within 75 miles. It is an extremely popular location for hunting, fishing, hiking, camping, and other outdoor pursuits.

The George Washington National Forest is also home to the headwaters of the Potomac and James Rivers, which help supply drinking water for many communities, including Washington, D.C. and Richmond, Virginia. The U.S. Forest Service has correctly taken a precautionary approach in assessing potential impacts from hydraulic fracturing on water and other natural resources in the George Washington National Forest before moving forward to approve new drilling. The Forest Service has also engaged in a very robust public process for the revision of its management plan, with the first public meeting held in 2007 and six scheduled for this summer. All parties have had an opportunity for input into this plan.

While there is growing understanding of the environmental impacts of oil and gas development, much remains unknown. There has been very little scientific investigation into the wide range of potential environmental impacts from this very complex industry. That is one reason why at least five federal agencies—the U.S. Environmental Protection Agency, the Department of the Interior, the Department of Energy, the U.S. Geological Survey (USGS), and the Forest Service have begun conducting some of their own inquiries into various aspects of oil and natural gas operations. In addition, the scientific resources of the Health and Human Services Department and others should also be brought to bear on these questions.

For example, Forest Service research in West Virginia has found that forests suffer permanent changes from drilling operations, including more than 200 trees cut down or harmed for only one wellpad, ineffective erosion controls, and toxic waste

disposal methods that killed vegetation. The researchers found that unexpected impacts could not be carefully controlled, planned for, or mitigated.¹

Duke University researchers recently documented what they describe as “systematic evidence for methane contamination of drinking water associated with shale gas extraction” and called for more data and research.²

The USGS found that the knowledge of how horizontal drilling and hydraulic fracturing might affect water resources has not kept pace” with the expanded use of these technologies. The USGS has stated that “Agencies that manage and protect water resources could benefit from a better understanding of the impacts that drilling and stimulating Marcellus Shale wells might have on water supplies, and a clearer idea of the options for wastewater disposal.”³

Clearly, many uncertainties remain. Despite these uncertainties, federal agencies have for years proposed oil and gas projects that do not fully comply with our environmental laws, and continue to do so. Many courts have overturned agency oil and gas approvals because of a lack of compliance; these decisions have led to improved projects on the ground, with better protection for valued resources. Drilling on federal lands continued to proceed apace. The Bureau of Land Management (BLM) has been approving permits and there are more than 38 million acres of land onshore leased for oil and gas by the BLM.⁴ It has been determined that price, not policy, is the biggest determining factor for drilling.

Not only is there limited scientific knowledge about the impacts of oil and natural gas production, but current regulations, as well as enforcement capabilities, are insufficient. Federal environmental laws, including the Clean Air Act, Safe Drinking Water Act, and Clean Water Act, have gaping loopholes for the oil and gas industry that need to be closed. For example, the Clean Water Act definition of “pollutant” excludes hydraulic fracturing fluids under certain circumstances.⁵ Hydraulic fracturing is also exempt from the Safe Drinking Water Act,⁶ emissions of toxic air pollutants by certain oil and gas operations are exempt from National Emission Standards for Hazardous Air Pollutants,⁷ and toxic oil and gas waste is exempt from federal hazardous waste provisions.⁸

While the Department of the Interior has announced new procedures to improve review of parcels proposed for leasing, something that NRDC strongly supports, the agency has not put strong rules in place to require new practices to best minimize environmental impacts. State rules are also woefully inadequate. For example, the Secretary of West Virginia’s Department of Environmental Protection (DEP) was recently quoted in a news article as stating that “...the DEP regulatory process for Marcellus gas wells is inadequate.” He also stated that West Virginia’s regulatory structure “isn’t prepared” and that the DEP hasn’t fully considered drilling’s aggregate effects on water, air, roads, public health and safety.⁹

This fact is not a partisan issue. A Republican candidate for Governor in West Virginia was recently quoted as stating that West Virginia needs new regulations to protect communities, state roads and the environment.¹⁰ Virginia has not seen any significant updating of its rules in more than a decade. Inadequate state rules are a concern in other states across the country.

States and federal agencies are also not staffed to fully enforce current laws on the books. It has been reported that Virginia had less than 10 enforcement staff in 2008 to oversee approximately 6,000 wells,¹¹ and that West Virginia has only 12 in-

¹Adams, Mary Beth *et al.*—Effects of development of a natural gas well and associated pipeline on the natural and scientific resources of the Fernow Experimental Forest,” Gen. Tech. Rep. NRS-76. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 2011; and Adams, Mary Beth *et al.*, “Effects of natural gas development on forest ecosystems” Gen. Tech. Rep. NRS-P-78. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 2010

²Osborn, Stephen G. *et al.* “Methane contamination of drinking water accompanying gas-well drilling and hydraulic fracturing.” *Proceedings of the National Academy of Sciences*. May 17, 2011, vol. 108, no. 20. 8172–8176.

³Soeder, Daniel J. and William M. Kappel. “Water Resources and Natural Gas Production from the Marcellus Shale,” U.S. Geological Survey, Fact Sheet 2009–3032, May 2009.

⁴Oil and Gas Lease Utilization—Onshore and Offshore: Report to the President. U.S. Department of the Interior. March, 2011.

⁵33USC1362(6)(B)

⁶Energy Policy Act of 2005. Section 322

⁷42USC7412(n)(4)

⁸42USC6921(b)(2)

⁹. David. “DEP: System ‘isn’t prepared.’” *The Dominion Post*, June 3, 2011.

¹⁰Rivard, Ry. “Republican Bill Maloney urges Marcellus shale regulations.” *Charleston Daily Mail*, July 4, 2011.

¹¹*ProPublica*, “How Big is the Gas Drilling Regulatory Staff in Your State?” Available at: <http://projects.propublica.org/gas-drilling-regulatory-staffing/>

spectors for 59,000 wells.¹² And in February of this year, the GAO reported the Department of the Interior (DOI) “continues to experience problems in hiring, training, and retaining sufficient staff to provide oversight and management of oil and gas operations on federal lands and waters.”¹³

In conclusion, we need more science and research, stronger rules, and better enforcement to protect the public’s health and our natural resources from the risks of oil and natural gas development. We urge the Committees to work with others in Congress and make sufficient funds available federal agencies to ensure they have the resources needed for these essential activities.

Mr. LAMBORN. OK. Thank you.

Now we will have questions from the Members of the committee. Members are limited to five minutes for their questions. I now recognize myself for five minutes.

Ms. Wofford, you talked about wanting a ban on horizontal drilling, and I am sure you understand that when you drill down and then go laterally with horizontal drilling you can go great distances. In fact, I think recently a record was set of nine miles from the vertical well itself. But you can go at least thousands of feet, sometimes miles.

So you can have a single pad with multiple wells on it, as opposed to 10 or 20 or more vertical wells scattered throughout the surrounding countryside. Wouldn’t you prefer one pad, as opposed to 10 or 20?

Ms. WOFFORD. Thanks for the question. I would say from the perspective of communities in the Shenandoah Valley the concern isn’t necessarily just the single footprint of a well pad. The concern really is the whole process that is associated with shale gas drilling, starting from the exploration all the way through to the wastewater treatment.

I mentioned the field trip that officials took to Wetzel County, Pennsylvania. Some of the impacts that they saw there go well beyond the footprint of a well pad. It is the impact on the landscape from well pads and compressor stations, but also the pipeline infrastructure, the heavy truck traffic carting chemicals and sand and cement in and out of sites.

Mr. LAMBORN. OK. But your objection is to the horizontal process?

Ms. WOFFORD. I think the concern in the Shenandoah Valley, sir, is really toward the entire process of shale gas drilling.

Mr. LAMBORN. OK. All right. Thank you for your honesty.

Ms. Matsen, I would like to ask you a question or two. You say that Virginia is interested in becoming the energy capital of the East Coast, and job creation here in Congress is a huge concern of ours, especially given the abysmal and discouraging job report that we heard this morning.

If the proposed horizontal ban on Forest Service lands was finalized, what would that do to future energy jobs in the Commonwealth of Virginia?

Ms. MATSEN. Thank you, Mr. Chairman, for that question. We don’t have precise numbers, of course. It is speculative to know what would happen.

¹²Junkins. Casey. “Drilling Fees Would Increase.” *The Intelligencer/Wheeling News Register*. February 1, 2011.

¹³U.S. Government Accountability Office, “High-Risk Series: An Update.” February. 2011. GAO-11-278.

But I think we can look at the more than 3,000 jobs that the industry is supporting in Southwest Virginia today and understand that the area being produced in Southwest Virginia is about the same size as the area in which production would be banned in the forest and perhaps extrapolate from those facts that we are looking at the missed opportunity, shall we say, for thousands of additional jobs in Virginia.

Mr. LAMBORN. OK. Thank you. And could you respond to a statement made by one of the other witnesses that the states playing a role in regulation have a poor record in most cases according to one of the witnesses?

I am not sure I agree with that. Could you respond to that in the case of the Virginia perspective?

Ms. MATSEN. Absolutely, sir. I certainly can't agree with that. We have, as I said in my remarks, no experience with water quality degradation in Virginia through decades of hydrofracturing and even the, perhaps, single decade of the high volume hydrofracturing in Southwest Virginia. Not a single experience.

Now, not to jinx our luck, and I can certainly turn to my expert to my right, but we are diligent. There has been a lot of discussion today about being cautious and being conservative and being diligent. Virginia and its regulators are all of those things, and we have a comprehensive regulatory scheme that goes from site examination to casing plans all the way to reclamation to make sure that the interests and resources of Virginia and Virginians are well protected.

Mr. LAMBORN. OK. Thank you.

Mr. Miller, I will conclude with you. Interestingly, and I have a quote here from the Director of Natural Resources Defense Council, Mr. Ralph Cavanaugh, "If the industry could meet high standards of environmental performance for extracting and delivering the fuel, we are looking here at very good news for America's economy and industrial competitiveness, the environment and our nation's energy security."

Can the industry meet those high standards that will lead to the good news that Mr. Cavanaugh says in his quote?

Mr. MILLER. Thank you very much for the question. We certainly believe we can. We have a long history of developing these industry standards and best practices. They are widely used throughout the country. They are widely cited not only in the state regulations, but also in the Federal regulations many times over.

And we have a large community of experts that develop these documents, as I mentioned in my testimony. So we feel that this strong foundation of technical work provides the blueprint that we are all looking for.

Mr. LAMBORN. OK. Thank you very much. My time is up. I will yield to the Ranking Member for five minutes.

Mr. HOLT. Thanks, Mr. Chairman.

Ms. Matsen, what is the largest industry in the Commonwealth of Virginia?

Ms. MATSEN. Agriculture, sir.

Mr. HOLT. Yes. As I understand it, about 350,000 jobs in the Commonwealth?

Ms. MATSEN. Yes, sir.

Mr. HOLT. Do you know the top five agricultural counties in the state?

Ms. MATSEN. They are right there in the Valley. Yes, sir. Of course.

Mr. HOLT. Yes. Three of the top five have actually commented on this subject. Let me mention a few things that I have here.

The County of Shenandoah, if I may quote here, in the revised management plan the Board of Supervisors asks that the Forest Service act to aggressively protect drinking water resources by prohibiting hydraulic fracturing natural gas wells. Do you disagree with the elected officials of Shenandoah County?

Ms. MATSEN. I certainly do not disagree with their caution.

Mr. HOLT. OK.

Ms. MATSEN. It is understandable that they would want to proceed carefully. However, I am not aware—

Mr. HOLT. Rockingham County.

Ms. MATSEN.—of any threat to their drinking water from this practice.

Mr. HOLT. OK. Rockingham County has also commented similarly, does not support these activities. Do you disagree with Rockingham County, the leaders?

Ms. MATSEN. Well, we do, sir.

Mr. HOLT. You do?

Ms. MATSEN. As I say, we agree with their desire to proceed with caution. This is an unfamiliar practice to the folks in the county. It has been going on in Southwest Virginia for a long time, though not in the northern part of the state.

Mr. HOLT. OK.

Ms. MATSEN. We look forward to engaging with our public officials in—

Mr. HOLT. Thanks. Now, Augusta County Board of Supervisors “does not support hydrofracking” as has been proposed. Do you disagree with the elected officials of the County of Augusta?

Ms. MATSEN. We do support hydrofracking in the forest.

Mr. HOLT. You do. And the City of Harrisonburg, Virginia? You disagree with the Council there when they say the Forest Service should act aggressively to protect drinking water by—

Ms. MATSEN. Again, we are not aware that this will pose any risk.

Mr. HOLT. And you support or do not support the declaration of the Town of Staunton I believe this is—yes, the Staunton City Council—asking the Forest Service to act aggressively to protect the drinking water by prohibiting the horizontal hydraulic fracturing?

Ms. MATSEN. If acting aggressively means a ban, sir, we would not support.

Mr. HOLT. I see. All right. Thank you. Now, these are not what you would call politically liberal bastions. We are not talking about Berkeley, California, or Cambridge, Massachusetts, are we here?

Ms. MATSEN. No, sir.

Mr. HOLT. No? OK. All right. Thank you.

Ms. Mall, you mentioned that the USGS found that knowledge of how horizontal drilling and hydraulic fracturing might affect water supplies has not kept pace with the expanded use.

You go on further to say that the problems in hiring, training, retaining sufficient staff to provide oversight and management exist and that we need more understanding and better enforcement in the area. So it sounds like you see some lack of knowledge on how to proceed.

Given that, do you think the Forest Service should move ahead with the horizontal drilling/hydraulic fracturing in the absence of this understanding and in the absence of this kind of enforcement?

Ms. MALL. Yes. Absolutely. We think a lot more science and research is needed. That is why we support the EPA's investigation into the potential risks of hydraulic fracturing on drinking water. Also, the Department of Energy is looking into this and, as we heard earlier, the—

Mr. HOLT. But the question is do you think they should allow these technologies to proceed in the absence of this knowledge?

Ms. MALL. We think there are places that absolutely should be off limits because the risk is too great and the unknowns are great, and that would include drinking watersheds for significant populations like the headwaters of the Potomac River.

It sounds like the Forest Service—I have not read the complete draft environmental impact statement. As was stated earlier, these are place-based and they are specific to location, but the discussion of the fractures and the faults underground, the drinking water sources that are there and the other important values in the forest, it sounds like they are on the right track.

Mr. HOLT. Thanks very much. My time has expired. Thank you, Mr. Chairman.

Mr. LAMBORN. OK. You are welcome. We will now take one of the Members of the committee out of order because he has a funeral to get to. Mr. Goodlatte of Virginia is next.

Mr. GOODLATTE. Thank you, Mr. Chairman. I appreciate your forbearance. One of my constituents from the Shenandoah Valley who gave his life in Afghanistan is being buried at Arlington National Cemetery later this afternoon and I do want to be there, so I appreciate the opportunity to ask questions of the witnesses before I depart.

Let me start with Ms. Matsen. I have heard from these counties as well, expressing their concern about what takes place in the National Forest. It is my understanding that not to the same degree that we have in the Allegheny National Forest in Pennsylvania where 97 percent of the mineral rights are owned by private individuals and only 3 percent by the Forest, so the forest land is owned by the government, but the subsurface rights are primarily not owned there.

But in the George Washington National Forest it is my understanding from the National Forest that 16 percent of the land or about 180,000 acres are owned by private entities in terms of the subsurface mineral rights. So if one were to proceed in those portions of the National Forest, that land would be subject to your regulation, would it not, and not to the Forest Service's regulation?

Ms. MATSEN. I will look to my expert to confirm, sir, but as far as my understanding is that that would be true. Yes, sir.

Mr. GOODLATTE. OK. So you would impose the state's requirements. And I share your concern and I share the concern of the

local governments that good standards be imposed before any kind of drilling takes place. We haven't seen this in the Shenandoah Valley. We have in other parts of Virginia.

And I suspect that is in part because there is a lot of uncertainty about whether there is an economically viable deposit in the area, but if there were determined to be one for that 180,000 acres this process that we are talking about here where they are banning it would not apply to those acres.

So the question I have for you is do you think that it would make good sense for the Forest Service to work on good technology and procedures that would be applied on their portion of the land and to work with the state and to the extent the Federal Government has input here on making sure that good practices are imposed because they can't stop it on those 180,000 acres anyway?

Ms. MATSEN. Yes, sir. I absolutely agree that there is a path short of a ban that allows us to develop those resources carefully and cautiously that would protect the interests in the forest.

Mr. GOODLATTE. And I share the concern of those local governments with regard to the quality of their drinking water and making sure that any chemicals used in the hydrofracking process wouldn't be allowed to get into the drinking water systems of those governments.

But they have jurisdiction over the remaining private land in their area with regard to certain zoning regulations and so on that they can impose. Have you heard from any of those jurisdictions that they have banned horizontal drilling or attempted to ban it in their jurisdiction on those private lands?

Ms. MATSEN. No, sir, I have not. They have declined to act on some interest that has been expressed, but in terms of adopting a ban going forward, no, sir. I have not.

Mr. GOODLATTE. So they have taken a case-by-case approach? They want to be cautious. I know that, for example, there was one application in a floodplain, and obviously that would generate some concern with regard to how those chemicals might get into drinking water if you had a flood or some other event like that.

But they have not taken the position that there would be no county-wide ban on horizontal drilling on private lands. Their focus has been imposing this ban strictly on Federal lands. As we have just pointed out, it wouldn't be an entire ban anyway because there would be land where the subsurface mineral rights are still retained by private landowners.

So again, my question to you is given the desire on the part of some, including myself, to make sure that we are using the newest and best technology and that we are making sure that there is not degradation of the land or the water resources of the counties that I represent, would it not make more sense to have a progressive approach to looking to using those newest technologies, as opposed to a 15 year ban which would not be 100 percent effective to begin with, but also would not allow for the same kind of considerations that they are making on private lands in the rest of the county on these public lands in the National Forest?

Ms. MATSEN. Yes, sir. Absolutely.

Mr. GOODLATTE. Thank you. Those are the only questions I have, Mr. Chairman.

Mr. LAMBORN. Thank you. We will now revert to the regular order of Members of the committee. Mr. Thompson of Pennsylvania?

Mr. THOMPSON. Thank you, Chairman. One of the witnesses noted that this isn't your grandfather's oil and gas industry. I couldn't agree more.

In my congressional district I have Drake Well, 1859, and I have been there. In fact, my district office is I won't say it is within a walk, but it is within a hike of that. Frankly, I have been on a lot of Marcellus well sites as well. How many of the panels have been to a Marcellus well site?

[A show of hands.]

Mr. THOMPSON. Great. I encourage those of you who haven't to do that. If you don't get that far just walk to 124 Cannon. We will show you a picture of the Drake Well and a 2010 Pennsylvania General Energy Well as well there. It is different. The science, the technology, the standards, the oversight by the states. It is absolutely different.

I want to just share in terms of the EPA, Administrator Lisa Jackson stated that there is no evidence that suggests the process of hydrofracking contaminates water. Just some assurance. My friend from Maryland is not here. He didn't allude. He specifically said that I guess those of us in Pennsylvania are contaminating the Chesapeake Bay.

I want to be very clear about that. The blowout that he was talking about is specifically the environmental testing after the incident found that there was "limited and very localized environmental impact with no adverse effects on aquatic life in Towanda Creek." So I assure you if there is no adverse impact on Towanda Creek, there is nothing in the Susquehanna River and nothing hundreds of miles away in the Chesapeake Bay as a result of that.

The previous panel mentioned a lot about the importance of public input from the Forest Service, and I can't agree with that more. Mr. Mayer, public input within the communities of the National Forest obviously is important. What has been your experience living and working within the Allegheny National Forest, the ability to provide input and how they receive or use that input?

Mr. MAYER. With respect to oil and gas development, Mr. Chairman?

Mr. THOMPSON. Yes.

Mr. MAYER. Well, at this point in time, because of the litigation and the injunction, the officers on the Allegheny National Forest are really not inclined to engage in dialogues. They simply participate in the course of the individual notifications that come from the companies in order to work through the consultation process, which has been the practice for the last 85 years and has been so done successfully.

So on a broad scheme in terms of talking like on a program basis, for example, with the Oil and Gas Association there really isn't engagement, but on the individual level with regard to a particular project there is, and it is typically very constructive because you are working usually with professional gas and oil administrators from the Forest Service at that level.

Mr. THOMPSON. It is my understanding that the production of shale gas is subject to eight Federal laws and 11 state laws. Mr. Mayer, is that true from your perspective?

Mr. MAYER. I couldn't begin to count the numbers of laws, the numbers of agencies and people with oversight frankly, Mr. Chairman, but I would feel confident that eight is certainly a confident number to rely on.

Mr. THOMPSON. Thanks. Mr. Fuller, what, in your opinion, would be the net effect on our domestic energy supply if a ban on horizontal drilling were carried out across the National Forest System?

Mr. FULLER. Well, it is difficult to know without knowing exactly the extent of resources in the National Forest System, but in those places where shale gas or shale oil underlies National Forest lands essentially the economics of developing those types of resources hinges on the use of horizontal drilling and hydraulic fracturing.

That technology has evolved particularly over the past five to seven years to allow us to now have the prolific development we have in the Marcellus shale and other shales around the country, so to suggest that limiting access to vertical wells would allow for the same type of development I think is inconsistent with the reality that it takes the combination of the two to really develop these new and very extensive shale formations.

Mr. THOMPSON. Thank you, Mr. Chairman.

Mr. LAMBORN. OK. Mr. Fleming of Louisiana?

Mr. FLEMING. Thank you, Mr. Chairman.

Ms. Wofford, you are here today. I get a sense that you are speaking for the people of Shenandoah Valley. Do you speak for them here today?

Ms. WOFFORD. No, sir. I think I am here to provide a perspective that I have observed from the Valley.

Mr. FLEMING. OK. So really you are speaking for yourself?

Ms. WOFFORD. Yes, and I feel confident speaking for the Shenandoah Valley Network and our member organizations that work in the local—

Mr. FLEMING. OK. But you haven't brought any surveys or data? There have been no votes on the issue?

Ms. WOFFORD. I have brought with me five resolutions from local government—

Mr. FLEMING. No, no. I am talking—

Ms. WOFFORD.—and a resolution from the Farm Bureau.

Mr. FLEMING. I am not talking about governments or government officials. I am talking about the people. I assume hundreds, thousands, maybe hundreds of thousands of people. There has been no survey.

Ms. WOFFORD. Sir, I am comfortable—I am sorry. Go ahead.

Mr. FLEMING. Has there been any survey? I mean, I would love to have that data if you have it here today.

Ms. WOFFORD. I am confident that the elected officials in the communities—

Mr. FLEMING. No. I don't want to hear what you are confident about. I want to know the data. Do you have any data? Yes or no?

Ms. WOFFORD. No, sir.

Mr. FLEMING. OK.

Ms. WOFFORD. No survey has been done.

Mr. FLEMING. You have no data.

OK. Ms. Mall? I can't see your name completely from here so I apologize. Now, you indicate that there is inadequate data on safety. Now again, we have established that this is a technology that has been going on 60 years. It does come under the EPA. EPA in 2004 said it is perfectly safe.

Again, I have asked the question before. I have asked it many times in this committee room. Not one, single person has been injured or killed from hydrofracking or horizontal drilling that I am aware of and nobody else, so it would seem to me that the burden is on you to tell us what is the technology where—I am sorry. Where is the science that it is damaging the environment or is damaging or hurting people? Do you have that data here today?

Ms. MALL. Congressman, I do want to mention one case in Ohio where the state—

Mr. FLEMING. Excuse me. I want to get plenty of questions in. I don't want anecdotal information.

Ms. MALL. No. This is a state investigation that found groundwater was contaminated due to three contributing factors, one of which was a frac job which, what they called, went out of zone.

There are other cases around the country where the state regulators have clearly found that oil and gas operations contaminated groundwater. We feel that they never asked the right questions to answer whether or not fracking was a contributing factor in those other cases.

Mr. FLEMING. OK. Have you brought the science on that, the study, the engineers evaluating? I mean, obviously for instance there is this video that is going around, or I guess it is a quasi-documentary about natural gas seeping into water supplies. We find out when you actually apply science to it that that is something that happens naturally in nature.

Ms. MALL. It does happen naturally in some cases, but state agencies have found that some methane in groundwater was caused by oil and gas operations—

Mr. FLEMING. OK. I would love to have—

Ms. MALL.—in Colorado and in Pennsylvania.

Mr. FLEMING. Let me throw this to the rest of the panel. Can anyone here answer that? My understanding is there is not a single proven case. I would love to hear your response.

Mr. FULLER. It depends on whether you are talking about fracturing or you are talking about methane. Fracturing there have been no cases indicating that the fracturing process has caused a problem with contamination to drinking water or groundwater.

Mr. FLEMING. Yes.

Mr. FULLER. Methane contamination is something that can occur as a result of the structure of a well. It is an important factor that as you are casing and cementing the well in place and as you are drilling through formations that you have to isolate those zones.

That is not a static process. Wells have to be maintained. Wells have to be carefully constructed. If there is a flaw in the steel, if there is a flaw in the cementing, that allows a pathway to occur that can bring methane into groundwater. It is equally certain that methane can be there naturally and can come from other types of formations.

So the issue at hand is always trying to determine what is the source of the methane. If the source of the methane is from an oil and gas operator's well, he is responsible for fixing it, for stopping that from occurring. It does occur. It has been investigated by state regulators. They do occasionally find the problem, but in most of the cases that have been publicized extensively those have generally been from non oil and gas well sources.

Put it in this context. We have around a million oil and gas wells operating in the country right now. We are drilling about 20,000 to 35,000 a year. We have a few of these anecdotal cases that show up, and they all are investigated by the state regulators and they make a determination as to what remedy has to be made to fix them.

Mr. FLEMING. All right. And are you aware, sir, of anyone who has been harmed or even fatally harmed as a result of leakage of methane?

Mr. FULLER. I am not aware of anyone that has been harmed by the leakage of methane associated with oil and gas operations. Now, obviously methane is also natural gas, and natural gas has been—

Mr. FLEMING. Right. I mean, obviously this does happen naturally. You know, we talk about oil spills in oceans, but the truth of that matter is that most of the oil that is in the ocean seeps through the ocean floor naturally so we have to keep all of that in context.

And the last thing. Ms. Matsen, you indicate that wells are regulated on a state level. In my state, at least in North Louisiana we have 12 full-time regulators from DEQ who are monitoring what is going on in all these wells. So is it correct to say that this is an unregulated industry?

Ms. MATSEN. No, sir, it is not.

Mr. FLEMING. OK.

Ms. MATSEN. And in fact, I would say that Louisiana does a wonderful job of regulating their industry. I have had the opportunity to meet with and talk with your Secretary of Natural Resources, and we think very similarly about the balance and the important balance between protecting our environment, our economy and our energy resources.

Mr. FLEMING. And you are subject to Federal laws in your state—

Ms. MATSEN. Yes, sir.

Mr. FLEMING.—as all our states?

Ms. MATSEN. Just like you are.

Mr. FLEMING. Yes. Thank you. Thank you. I am done.

Mr. LAMBORN. OK. I recognize the gentleman from California for up to five minutes.

Mr. COSTA. Thank you very much, Mr. Chairman. I know we are on the second panel and a lot of the questions have been asked.

I think it is appropriate that the two committees do spend some time, especially in light of the fact that I think we are going to utilize more and more natural gas as a cleaner source of energy and clearly with the abundance of the Marcellus shale and the reserves that now seem to be proven to be over 100 years will provide a lot

of benefit to this country, and it is incumbent upon us to ensure that we do it as safely as we can.

As some of you know, I represent a significant portion of Kern County, and if it were ranked as a state in the Nation—people don't often think about this from California—it would be the fourth largest producing oil production in the nation.

As a matter of fact, I know a lot of my colleagues have various views on offshore drilling, but we have 25 platforms offshore, and we have a lot of spent drilling in California. And California, with 38 million people, produces 47 percent of its own oil needs. That gets overlooked. If we didn't do that, we would be obviously in a much more difficult situation. We also have 20 percent of our energy as renewable, and we are trying to by the year 2020 strive to 30 percent as renewable energy, so we are trying to balance our portfolio.

It is my understanding that the Bureau of Land Management earlier today and the Forest Service testified that they have no intention of banning horizontal drilling or hydraulic fracturing on Federal lands. Is that clear, Mr. Chairman? I guess I will ask that question through you since that was on the previous panel.

Mr. Chairman? I am asking a question through the Chair since I missed the first panel. I understand that BLM testified and the Forest Service that they have no intention on banning horizontal drilling or hydraulic fracturing on Federal lands. Was that testified today?

Mr. LAMBORN. Well, Mr. Abbey indicated that, but nevertheless we have this preferred alternative sitting there right now in the George Washington Forest where that exact—

Mr. COSTA. No. This Administration, like every previous Administration, I think sometimes finds itself in contradictory sort of positions. I have been made aware of the Washington situation and the proposals there.

But I think as a policy we are going to have to continue slant drilling and fracturization if we are going to take advantage of these energy sources and use all the energy tools in our energy toolbox as the bipartisan legislation that Congressman Murphy and I and others have introduced.

I think that while you from time to time have problems with wells, that is why we have regulations. That is why we need to always be scrutinizing this process to ensure that we can convince the public that we do this as safely as we possibly can. That is a responsibility that I think government has at the Federal and state level, as well as the energy companies have to ensure that they are using state-of-the-art, best management practices.

Mr. Fuller, would you say that is the case today?

Mr. FULLER. I think the industry—a combination of things. One, the industry's regulatory structure that it operates in imposes a substantial set of requirements to assure that the protection of environment and public health are undertaken in the course of developing processes.

Mr. COSTA. As it should be.

Mr. FULLER. As it should be. Absolutely.

Mr. COSTA. Right. And it has been longstanding. And we are doing this in the shadow of the massive spill in the Gulf—

Mr. FULLER. Right.

Mr. COSTA.—in which there is a lot of skepticism.

Mr. FULLER. There is skepticism. There is always going to be some skepticism. There are always going to be questions about any regulatory system, but it is a system that has arisen over multiple decades, long before there was hydraulic fracturing, long before there was—

Mr. COSTA. Right.

Mr. FULLER.—horizontal drilling, that has put in place a series of particular protections that are imposed on each driller. In addition to that—

Mr. COSTA. My time is running out though, so—

Mr. FULLER. In addition to that you have efforts like the ones that have been undertaken by the American Petroleum Institute for nine decades I think said that create technical guidance documents and industry standards that the industry also tries to adhere to.

Mr. COSTA. And we need to continue to update those to ensure that they are the best that they can possibly be in the world.

Mr. FULLER. Absolutely. In fact, the API has just done five of them, updated five of them.

Mr. COSTA. One quick question. I don't know if the Chair will allow me the time because mine has expired.

I don't know if it was stated in earlier testimony, but the potential we have talked about with the discovery of the significance of the Marcellus shale and other finds, the potential impacts for natural gas. It is the energy de jour, as I like to say in California these days, because we have a lot of air quality problems in closed air basins.

But I am still at a bit of a loss as to why we won't have greater utilization, notwithstanding the resource of natural gas throughout the country. Could you try to explain why?

Mr. FULLER. Well, historically natural gas really grew after World War II.

Mr. COSTA. I understand that.

Mr. FULLER. And as that growth expanded you did see a huge extension of natural gas into residential or commercial operations. At that time there were wellhead controls on gas, and it eventually suppressed its development. Now, those came off during the 1980s principally, and we saw an increase in natural gas.

At that point in time we were dealing principally with conventional formations, to some degree unconventional formations like tight sands and coal bed methane, and as we hit about 2000 we started seeing a real challenge in being able to grow the natural gas market, given the kinds of natural depletion rates we were having in the conventional formations.

Along about 2005, we really saw the emergence, the beginning emergence of the development of shale gas. So for now the next five, six years we have seen the identification of shale gas formations across the country, a wide number of formations. We are seeing the development of those formations.

I think two things. One, as analysts are looking at those formations they are now projecting that we have about 100 years of potential natural gas supply in this country.

Mr. COSTA. That is based upon the current use?

Mr. FULLER. Based on current use, which would also allow increased—

Mr. COSTA. So if we doubled the use then we would have a 50 year?

Mr. FULLER. We would have a 50 year supply. The second aspect of that is I think the using industries—manufacturing, chemicals—are now realizing that this is a real source of supply.

After watching supply being somewhat constrained in early 2000, the price going up, you saw the chemical industry in particular and other manufacturers being very concerned about the reliability of the resource. I think that is changing. We are now starting to see chemical companies looking at building new operations in areas like West Virginia to take advantage of the natural gases.

Mr. COSTA. Thank you very much, Mr. Chairman. You have been generous with your time. The witness obviously could be pretty good at filibustering if he needed to be.

Mr. FULLER. I worked in the Senate at one time.

Mr. LAMBORN. This is not a Senate hearing, so—

Mr. COSTA. No, I don't think so, but he has obviously had some practice.

Mr. FULLER. I did work in the Senate at one time.

Mr. LAMBORN. As we start to conclude here, the gentleman from Colorado?

Mr. TIPTON. Mr. Chairman, I would like to yield my time to Congressman Flores.

Mr. LAMBORN. Mr. Flores?

Mr. FLORES. Thank you, Mr. Tipton. Thank you, Mr. Chairman. Witnesses, thank you for joining us today. I know it is not something you would like to be doing on a Friday afternoon.

First of all, Ms. Matsen, what is the unemployment rate in Virginia today?

Ms. MATSEN. Golly. Those new numbers just came in, so if I don't get the new number forgive me, but I know that we are about two points under the national average, and I want to say just about 7 percent unemployment.

Mr. FLORES. And how about the Shenandoah Valley? Do you have those metrics?

Ms. MATSEN. I am afraid I do not.

Mr. FLORES. OK. Thank you.

Mr. Mayer, can you tell me about the process that the Forest Service used to develop these seven options, if you know what it is? If you don't, just say you don't know.

Mr. MAYER. Well, they are using the forest plan process as their planning process—

Mr. FLORES. OK.

Mr. MAYER.—wherein various options are put forward for purposes of being assessed or evaluated.

Mr. FLORES. I mean, how were they developed? Did they hold hearings or did they go to each community and say tell us what you think about drilling in the George Washington National Forest?

Mr. MAYER. Well, all I can speak to is my familiarity with what they did in the Allegheny National Forest in revising the Forest Plan there. I would assume it is the very same process.

And they simply go about seeking public input and conduct a series of public meetings, as well as getting data and so forth and periodically through of course the technology with the Internet are able to update and keep people informed of what is going on in the——

Mr. FLORES. OK. I am going to move on. Ms. Wofford, did the Forest Service come into the Shenandoah Valley to the counties you mentioned and the communities and hold public input meetings?

Ms. WOFFORD. Yes, sir. There were a series of public meetings.

Mr. FLORES. They did? OK. And did you participate in those?

Ms. WOFFORD. Yes, sir, I did.

Mr. FLORES. And, Ms. Mall, did you participate in those as well?

Ms. MALL. No, I did not.

Mr. FLORES. OK. Did you provide testimony, Ms. Wofford?

Ms. WOFFORD. Yes, sir. We have commented several times on the Forest Plan.

Mr. FLORES. OK. Can this committee get copies of that testimony?

Ms. WOFFORD. Certainly. I would be happy to provide it.

Mr. FLORES. OK. That would be great if you could do that.

Ms. Mall, is your organization involved in any litigation with the Forest Service on drilling?

Ms. MALL. Yes, sir.

Mr. FLORES. They are? OK. One lawsuit? Several lawsuits? How many?

Ms. MALL. I am not a lawyer. I am not involved in the litigation myself. I would say probably several at any time.

Mr. FLORES. OK. How many with respect to the George Washington National Forest?

Ms. MALL. Actually none that I know of with the George Washington National Forest.

Mr. FLORES. OK. And, Ms. Wofford, your organization? Is it involved in any litigation with respect to the George Washington National Forest?

Ms. WOFFORD. No, sir.

Mr. FLORES. OK. I am glad to hear that. The issue that was raised by the last panel seemed to be more related toward water. Even though one of the options was a ban on horizontal drilling, instead of trying to address the problem they shot another innocent bystander.

Ms. Wofford, what do you think the problem is here? Is it water or is it something broader?

Ms. WOFFORD. I think it is both. I think water is certainly part of the concern, but I think the concerns are broader. Rockingham County, for example——

Mr. FLORES. Short answers, too.

Ms. WOFFORD. Sure.—said that they would be open to seeing this type of energy development on private lands if it is done in the appropriate place with appropriate regulations, but, please, not on

our public lands, the forestlands that provide so many other uses and benefits like water supply to the local communities.

Mr. FLORES. OK. Ms. Mall, you made several claims regarding the USGS saying that the science wasn't there, which I wholeheartedly disagree with. You said that there weren't enough regulators in various states. I don't know what scientific basis you have to make that claim.

But just hypothetically, under what circumstances would you find drilling for oil and gas in the George Washington National Forest to be acceptable?

Ms. MALL. Well, I think there are probably some places where we would think it is not acceptable due to the risks.

Mr. FLORES. Is that the case here?

Ms. MALL. In some locations. Now, there are many technologies that are available to the industry that allow it to operate in much cleaner and safer ways than it generally does. In most cases we see—

Mr. FLORES. Such as?

Ms. MALL. For example, using the most stringent well construction standards. That is typically stronger than what most states require and, in most cases, my understanding is the companies tend to comply with the state rules at a minimum—and not always go beyond what we know they can do that is safer.

Capturing air emissions during a frac job, because there can be very toxic air emissions. That is another thing we know companies can do, but they don't always do.

So there are a list of things, in addition to how they manage the waste that comes out of the frac job, which can be quite toxic. There are a list of things we know companies can do that they don't adopt uniformly across every operation. That would be a starting point to really know that the absolute safest practices were in place.

Mr. FLORES. So just theoretically, if a company or an organization did do all of these things that you are talking about, would you find it acceptable to drill in the George Washington National Forest?

Ms. MALL. I think it would depend on location. Every spot is different. How close it is to a water body, whether it is a steep slope, whether it is the middle of a hunting ground. There are lots of different criteria to take into account, but certainly we are not opposed to all drilling every place.

Mr. FLORES. I am glad to hear that. OK. I yield back.

Mr. LAMBORN. Thank you. That concludes our questions. I want to thank each of the members of the panel for being here. Thank you for putting up with our delay earlier. Members of the committee may have additional questions for the record, and I would ask you to respond to these in writing.

Is there any further business before we conclude?

Mr. HOLT. Mr. Chair?

Mr. LAMBORN. Mr. Holt?

Mr. HOLT. I would like to ask unanimous consent to include in the record two articles written by Ian Urbina of *The New York Times* about wastewater quality issues associated with hydraulic fracturing.

Before my colleagues jump to ridicule these as not being scientific, peer-reviewed articles, I would comment that they appear to be well researched and well documented about, for example, radioactivity detected in the water.

I thought it was important to include them in the record because in response to some comments I made earlier one of my colleagues asked to have included in the record an article from the *Pittsburgh Tribune-Review* saying that in a small selection of wells there was no radioactivity found, even though only six of the 14 drinking water plants submitted test results, the state had asked 25 wastewater treatment plants for results which were not included.

So my point is this is also a newspaper article that doesn't have—

Mr. LAMBORN. OK.

Mr. HOLT.—a thorough scientific basis, which only goes to illustrate the point that Witness Mall was making that there is a great deal to be learned yet. Thank you.

Mr. LAMBORN. OK. Without any objection, so ordered.

[The two *New York Times* articles follow:]

**Drilling Down
Insiders Sound an Alarm Amid a Natural Gas Rush**

By IAN URBINA

The New York Times

Published: June 25, 2011

Natural gas companies have been placing enormous bets on the wells they are drilling, saying they will deliver big profits and provide a vast new source of energy for the United States.

But the gas may not be as easy and cheap to extract from shale formations deep underground as the companies are saying, according to hundreds of industry e-mails and internal documents and an analysis of data from thousands of wells.

In the e-mails, energy executives, industry lawyers, state geologists and market analysts voice skepticism about lofty forecasts and question whether companies are intentionally, and even illegally, overstating the productivity of their wells and the size of their reserves. Many of these e-mails also suggest a view that is in stark contrast to more bullish public comments made by the industry, in much the same way that insiders have raised doubts about previous financial bubbles.

"Money is pouring in" from investors even though shale gas is "inherently unprofitable," an analyst from PNC Wealth Management, an investment company, wrote to a contractor in a February e-mail. "Reminds you of dot-coms."

"The word in the world of independents is that the shale plays are just giant Ponzi schemes and the economics just do not work," an analyst from IHS Drilling Data, an energy research company, wrote in an e-mail on Aug. 28, 2009.

Company data for more than 10,000 wells in three major shale gas formations raise further questions about the industry's prospects. There is undoubtedly a vast amount of gas in the formations. The question remains how affordably it can be extracted.

The data show that while there are some very active wells, they are often surrounded by vast zones of less-productive wells that in some cases cost more to drill and operate than the gas they produce is worth. Also, the amount of gas produced by many of the successful wells is falling much faster than initially predicted by energy companies, making it more difficult for them to turn a profit over the long run.

If the industry does not live up to expectations, the impact will be felt widely. Federal and state lawmakers are considering drastically increasing subsidies for the natural gas business in the hope that it will provide low-cost energy for decades to come.

But if natural gas ultimately proves more expensive to extract from the ground than has been predicted, landowners, investors and lenders could see their investments falter, while consumers will pay a price in higher electricity and home heating bills.

There are implications for the environment, too. The technology used to get gas flowing out of the ground—called hydraulic fracturing, or hydrofracking—can re-

quire over a million gallons of water per well, and some of that water must be disposed of because it becomes contaminated by the process. If shale gas wells fade faster than expected, energy companies will have to drill more wells or hydrofrack them more often, resulting in more toxic waste.

The e-mails were obtained through open-records requests or provided to *The New York Times* by industry consultants and analysts who say they believe that the public perception of shale gas does not match reality; names and identifying information were redacted to protect these people, who were not authorized to communicate publicly. In the e-mails, some people within the industry voice grave concerns.

“And now these corporate giants are having an Enron moment,” a retired geologist from a major oil and gas company wrote in a February e-mail about other companies invested in shale gas. “They want to bend light to hide the truth.”

Others within the industry remain optimistic. They argue that shale gas economics will improve as the price of gas rises, technology evolves and demand for gas grows with help from increased federal subsidies being considered by Congress. “Shale gas supply is only going to increase,” Steven C. Dixon, executive vice president of Chesapeake Energy, said at an energy industry conference in April in response to skepticism about well performance.

Studying the Data

“I think we have a big problem.”

Deborah Rogers, a member of the advisory committee of the Federal Reserve Bank of Dallas, recalled saying that in a May 2010 conversation with a senior economist at the Reserve, Mine K. Yucel. “We need to take a close look at this right away,” she added.

A former stockbroker with Merrill Lynch, Ms. Rogers said she started studying well data from shale companies in October 2009 after attending a speech by the chief executive of Chesapeake, Aubrey K. McClendon. The math was not adding up, Ms. Rogers said. Her research showed that wells were petering out faster than expected.

Robbie Brown contributed reporting from Atlanta

Behind Veneer, Doubt on Future of Natural Gas

By IAN URBINA

The New York Times

June 26, 2011

Energy companies have worked hard to promote the idea that natural gas is the fossil fuel of tomorrow, and they have found reliable allies among policy makers in Washington.

“The potential for natural gas is enormous,” President Obama said in a speech this year, having cited it as an issue on which Democrats and Republicans can agree.

The Department of Energy boasts in news releases about helping jump-start the boom in drilling by financing some research that made it possible to tap the gas trapped in shale formations deep underground.

In its annual forecasting reports, the United States Energy Information Administration, a division of the Energy Department, has steadily increased its estimates of domestic supplies of natural gas, and investors and the oil and gas industry have repeated them widely to make their case about a prosperous future.

But not everyone in the Energy Information Administration agrees. In scores of internal e-mails and documents, officials within the Energy Information Administration, or E.I.A., voice skepticism about the shale gas industry.

One official says the shale industry may be “set up for failure.” “It is quite likely that many of these companies will go bankrupt,” a senior adviser to the Energy Information Administration administrator predicts. Several officials echo concerns raised during previous bubbles, in housing and in technology stocks, for example, that ended in a bust.

Energy Information Administration employees also explain in e-mails and documents, copies of which were obtained by *The New York Times*, that industry estimates might overstate the amount of gas that companies can affordably get out of the ground.

They discuss the uncertainties about how long the wells will be productive as well as the high prices some companies paid during the land rush to lease mineral rights. They also raise concerns about the unpredictability of shale gas drilling.

One senior Energy Information Administration official describes an “irrational exuberance” around shale gas. An internal Energy Information Administration document says companies have exaggerated “the appearance of shale gas well profitability,” are highlighting the performance of only their best wells and may be using overly optimistic models for projecting the wells’ productivity over the next several decades.

While there are environmental and economic benefits to natural gas compared with other fossil fuels, its widespread popularity as an energy source is relatively new. As a result, it has not received the same level of scrutiny, according to some environmentalists and energy economists.

The Energy Information Administration e-mails indicate that some of these difficult questions are being raised.

“Am I just totally crazy, or does it seem like everyone and their mothers are endorsing shale gas without getting a really good understanding of the economics at the business level?” an energy analyst at the Energy Information Administration wrote in an April 27 e-mail to a colleague.

Another e-mail expresses similar doubts. “I agree with your concerns regarding the euphoria for shale gas and oil,” wrote a senior official in the forecasting division of the Energy Information Administration in an April 13 e-mail to a colleague at the administration.

“We might be in a ‘gold rush’ wherein a few folks have developed ‘monster’ wells,” he wrote, “so everyone assumes that all the wells will be ‘monsters.’”

The Energy Information Administration’s annual reports are widely followed by investors, companies and policy makers because they are considered scientifically rigorous and independent from industry. They also inform legislators’ initiatives. Congress, for example, has been considering major subsidies to promote vehicles fueled by natural gas and cutting taxes for the industry.

In any organization as big as the Energy Information Administration, with its 370 or so employees, there inevitably will be differences of opinion, particularly in private e-mails shared among colleagues. A spokesman for the agency said that it stands by its reports, and that it has been clear about the uncertainties of shale gas production.

“One guiding principle that we employ is, ‘look at the data,’” said Michael Schaal, director of the Office of Petroleum, Natural Gas and Biofuels Analysis within the Energy Information Administration. “It is clear the data shows that shale gas has become a significant source of domestic natural gas supply.”

But the doubts and concerns expressed in the e-mails and correspondence obtained by *The Times* are noteworthy because they are shared by many employees, some of them in senior roles. The documents and e-mails, which were provided to *The Times* by industry consultants, federal energy officials and Congressional researchers, show skepticism about shale gas economics, sometimes even from senior agency officials.

The e-mails were provided by several people to *The Times* under the condition that the names of those sending and receiving them would not be used.

Some of the e-mails suggest frustrations among the staff members in their attempt to push for a more accurate discussion of shale gas. One federal analyst, describing an Energy Information Administration publication on shale gas, complained that the administration shared the industry’s optimism. “It seems that science is pointing in one direction and industry PR is pointing in another,” wrote the analyst about shale gas drilling in an e-mail. “We still have to present the middle, even if the middle neglects to point out the strengths of scientific evidence over PR.”

The Energy Information Administration, with its mission of providing “independent and impartial energy information to promote sound policymaking” and “efficient markets,” was created in response to the energy crisis of the 1970s because lawmakers believed that sound data could help the country avoid similar crises in the future.

As a protection from industry or political pressure, the Energy Information Administration’s reports, by law, are supposed to be independent and do not require approval by any other arm of government.

Its administrator, Richard G. Newell, who announced this month his plans to resign to take a job at Duke University, has hailed the prospects for shale gas, calling it a “game changer” in the United States energy mix. “The energy outlook for natural gas has changed dramatically over the past several years,” Mr. Newell told the Natural Gas Roundtable, a nonprofit group tied to the American Gas Association. “The most significant story is the transformative role played by shale gas.”

A number of factors have also helped create more interest in shale gas. The nuclear disaster in Japan in March has focused attention on the promise of natural gas as a safer energy source.

And last year, as energy market analysts warned about tougher federal regulations on oil and coal, particularly after the BP oil spill and the Massey coal mining accident, they also pointed to natural gas as a more attractive investment.

But a look at the Energy Information Administration's methods raises questions about its independence from energy companies, since the industry lends a helping hand to the government to compile those bullish reports.

The Energy Information Administration, for example, relies on research from outside consultants with ties to the industry. And some of those consultants pull the data they supply to the government from energy company news releases, according to Energy Information Administration e-mails. Projections about future supplies of natural gas are based not just on science but also some guesswork and modeling.

Two of the primary contractors, Intek and Advanced Resources International, provided shale gas estimates and data for the Energy Information Administration's major annual forecasting reports on domestic and foreign oil and gas resources. Both of them have major clients in the oil and gas industry, according to corporate tax records from the contractors. The president of Advanced Resources, Vello A. Kuuskraa, is also a stockholder and board member of Southwestern Energy, an energy company heavily involved in drilling for gas in the Fayetteville shale formation in Arkansas.

The contractors said they did not see any conflict of interest. "Firstly, the report is an extremely transparent assessment," said Tyler Van Leeuwen, an analyst at Advanced Resources, adding that many experts agreed with its conclusions and that by identifying promising areas, the report heightened competition for Southwestern.

Intek verified that it produced data for Energy Information Administration reports but declined to comment on questions about whether, given its ties to industry, it had a conflict of interest.

Some government watchdog groups, however, faulted the Energy Information Administration for not maintaining more independence from industry.

"E.I.A.'s heavy reliance on industry for their analysis fundamentally undermines the agency's mission to provide independent expertise," said Danielle Brian, the executive director of the Project on Government Oversight, a group that investigates federal agencies and Congress.

"The Chemical Safety Board and the National Transportation Safety Board both show that government agencies can conduct complex, niche analysis without being captured or heavily relying upon industry expertise," Ms. Brian added, referring to two independent federal agencies that conduct investigations of accidents.

These sorts of concerns have also led to complaints within the administration itself.

In an April 27 e-mail, a senior petroleum geologist who works for the Energy Information Administration wrote that upper management relied too heavily on outside contractors and used "incomplete/selective and all too often unreal data," much of which comes from industry news releases.

"E.I.A., irrespective of what or how many 'specialty' contractors are hired, is NOT TECHNICALLY COMPETENT to estimate the undiscovered resources of anything made by Mother Nature, period," he wrote.

Energy officials have also quietly criticized in internal e-mails the department's shale gas primer, a source of information for the public, saying it may be "on the rosy side."

The primer is written by the Ground Water Protection Council, a research group that, according to tax records, is partly financed by industry.

The Ground Water Protection Council declined to respond to questions.

Tiffany Edwards, a spokeswoman for the Department of Energy, said that the shale gas primer was never intended as a comprehensive review and that further study was continuing.

Asked about the views expressed in the internal e-mails, Mr. Schaal says his administration has been very explicit in acknowledging the uncertainties surrounding shale gas development.

He said news reports and company presentations were included among a range of information sources used in Energy Information Administration studies. Though the administration depends on contractors with specialized expertise, he added, it conforms with all relevant federal rules.

And while production from shale gas has not slowed down and may not any time soon, he said, a lively debate continues within the administration about shale gas prospects.

Robbie Brown contributed reporting from Atlanta. Kitty Bennett contributed research.

Mr. LAMBORN. If there is no further business—Mr. Flores?

Mr. FLORES. I meant to ask one more question. This may be grossly out of order, but I was wondering if Ms. Mall could provide her testimony that she provided to the Forest Service when talking about drilling on the George Washington National Forest.

Ms. MALL. That would be probably her testimony? I am sorry.

Mr. FLORES. Did your organization provide testimony at these public input—

Ms. MALL. Comments?

Mr. FLORES. Yes.

Ms. MALL. No. We have not commented.

Mr. FLORES. You didn't. OK.

Ms. MALL. No. Sorry.

Mr. FLORES. Disregard.

Mr. LAMBORN. OK. The committee will be adjourned.

[Whereupon, at 2:30 p.m., the Subcommittees were adjourned.]

[Additional material submitted for the record follows:]

[A letter submitted for the record by Peter C. Walton follows:]

5/5/2011

7/6/2011

To the House Committees on Agriculture & Natural Resources,

I am a citizen of Rockingham County, Virginia. My concern, along with my fellow citizens, is hydro-fracking. Gas companies already have leases in our county, and we are not ok with what they intend to do on that land. We are all appalled that such a practice has ever been allowed to take place anywhere in this country, and are incredibly disappointed that our government could show such little concern for the people.

Everyone is on the same page: Fracking and other harmful mining procedures are no longer acceptable. Oil and Coal are no longer working. We MUST move forward immediately with new solar and wind technologies, before we have permanently ruined thousands of people's drinking water. We cannot wait around for studies to be conducted on the effects of hydro-fracking; there is already enough evidence out there that proves its harmfulness. Far too much is at stake for this to continue. The rape of Mother Nature must end, now.

I understand Natural Gas may seem like some sort of economic solution. However, it is not. Allowing innocent people's water to be toxically polluted in order for temporary economic relief makes no sense at all. These people are being exploited for profit, and have no say in the matter. Exploitation without Representation.

It seems obvious to me; shift all those billions and billions of dollars in the coal and gas industry into new energy sources. The potential negative consequences of not doing this are something that no human being wants to see. If fracking is allowed to go on in the US, and soon the rest of the world, we will no doubt have a global war for water on our hands. No amount of money can solve that problem.

As far as creating jobs go, this time presents an excellent opportunity. Thousands of jobs can be created, if the money is moved away from the harmful oil and gas industries and put into Sustainable Housing projects. We need the unemployed portion of society more than ever right now. Jobs can be created in which people will go into homes, assess how energy efficient the home is, and then make it as "green" as it possibly can be. No need to create more mining and oil drilling jobs, which are hazardous to the health of workers anyway.

My personal belief is that we must return to a way of life similar to that of the Native American people. The things mentioned above are a transition for those who are too scared to be one with nature again; the way humans were supposed to be.

I hope you are on the same page, and I look forward to hearing what steps you take to ensure a bright future for Virginia and the rest of the Country.

Respectfully,

Peter C. Walton

I currently have around 150 signatures (and counting) on the following petition:

**We Citizens Agree to the Following Concerns
June 25, 2011 Bergton, VA**

Over a million people are served by the purification of their drinking water by the George Washington National Forest. Our health, prosperity and livelihood are dependent upon the wise management of these lands. We, the citizens, are opposed to hydraulic fracturing and any other harmful gas drilling methods that may be allowed in the George Washington National Forest and on both federal and private lands.

We suggest a 15 year moratorium in VA and West VA on any drilling permit approval until the EPA conducts its studies on fracking and the numerous complaints about air and water contamination, other hydro-geological studies are fully evaluated for the ecological ramifications of such drilling, gas companies full disclose chemicals and perfect their technologies, and that we have sufficient regulations in place and competent regulators for oversight of drilling operations.

Whereas,

1. Horizontal drilling and hydrofracking pose an unacceptable risk to our drinking water and the quality of wells, groundwater, aquifers, ponds, streams, rivers. Also such activity seriously impacts our air basin by toxic chemical emissions, and pollutants.
2. Drilling will introduce over millions of gallons of undisclosed chemicals into our land, air and water, placing local residents, wildlife, and critical agriculture resources and watershed areas at risk.
3. Communities where hydrofracking has occurred have experienced explosions, flammable drinking water, fracking fluid spills, stream contamination, fish kills, public health problems, and more.
4. We do not have emergency services for such disasters and the cost of having them in place would mean additional financial strain on taxpayers.
5. Gas drilling in Virginia will involve construction of a massive infrastructure of wellheads, pipelines, compressing stations, and processing centers spread across much of rural Rockingham County and Hardy County, West Virginia. Drilling on this scale will turn our forest area into industrial wastelands.
6. Infrastructure development would likely involve extensive clearing of forest trees, 24-hour noise and light pollution, huge increases of truck traffic, damage to roads, and disruption to a quiet lifestyle that attract people to live here. Also drilling and related development are incompatible with agriculture, tourism, recreation; that will significantly alter current economic development including severe stresses on roadways.
7. We want to protect those citizens who own land, homes, and their health from the potential dangers of drilling for natural gas.
8. In view of these problems Rockingham County, and Hardy County is seriously understaffed and underfunded, and is in no position to regulate and effectively monitor drilling in Bergton and Criders area of Virginia.
9. Natural gas is not "clean energy" but rather just another polluting, non-renewable fossil fuel contributing to atmospheric CO2 and Methane.
10. We respect the rights of property owners to exploit or lease the mineral rights under their land so long as that use does not diminish the value of others' property. Hydrofracking cannot be accomplished without permanently injuring the rights of adjoining, nearby and downstream landowners, in ways described above.

"We can't solve problems by using the same kind of thinking we used when we created them." –Einstein

Would George Washington be proud if we destroy the forest named in his memory? I think not.

