

Brussels Forum

March 26, 2011

Pipelines, Politics, and Pipe Dreams

Craig Kennedy: Thank you so much. One of the major issues in the last year has been energy. (Inaudible) in the United States and other parts of the world, debates in the last month of so on the future of nuclear energy and a host of other energy-related topics. We are really pleased that we've put together an excellent group to talk about pipelines and pipe dreams. I'm not quite sure who came up with the title, but it's creative. And I'd like to invite our moderator, Dr. Sylke Tempel, Editor of *Internationale Politik*.

Dr. Sylke Tempel: Hello. Yes. Thank you very much. I'm always impressed about these quick changes of infrastructure here. Thank you very much for the introduction. I'm the editor of *Internationale Politik*. And after we've been hearing how charmed Tom Stoppard's life has been, we'll stay for a moment in the realm of magic in the sense that, while alchemists in the

Medieval times were looking for the magic formula of making gold, we are obviously looking for magic formula for energy. Energy has to be there in huge supplies, preferably from nice partners and suppliers and not troublemakers. They have to be shipped in a way that's sustainable. They have to be cheap. They have to be sufficient; sufficient for the industrialized companies but preferably also for the emerging countries. And then on the consumer's bill, they also have to come cheap. As you can say, this might be achieved just as successfully as the magic formula for gold.

The great thing about the Brussels Forum is that not only do you get an impression with the topics of the panelists on what are really the hot topics that we are discussing, but they're all interconnected. This morning I've been to the session on the Fossil-Free Future of Energy. It was quite interesting. It was very interesting indeed because basically what you get is in the energy mix of magic formula of energy, on the question of nuclear energy, you get -- especially in

these days, there are always some precautions. We might not look, but we are not quite sure yet, but we might not look in such a glorious future of nuclear energy. When it comes to renewable energy, the answer that you are getting for quite some time is it's very promising, it might be someday just as cheap as fossil fuels, but, actually, the magic word here is, not yet. We are there not yet.

So, that means that from -- the arm of technological innovations in the late 20th and 21st century, we basically go back a bit into the realm of politics and power politics, which is very much 19th century. And this is why this panel has been so aptly called Pipelines, Politics and Pipe Dreams. I'm very pleased to introduce the panelists to you.

To the very left, Ambassador Richard Jones, who's been ambassador to Israel and Lebanon; not very resource-rich country, troubled some, however, and to Kazakhstan and Kuwait, very resource-rich, I'd say, and who is, since 2008, the Deputy Director of the

International Energy Agency. We have here and are very pleased to greet you here on the panel, Iain Conn, who's the Chief Executive of Refining and Marketing of BP. Welcome. To his left, Ivan Krastev, who you might also see in a panel tomorrow, right? You are a multi-tasker from Bulgaria, and you are the Chair of the Board, Program Director of Political Research at Centre for Liberal Strategies. And last but really not least - - well, actually, the Romanian President Traian Basescu had to obviously answer his Blackberry and to go back to Bucharest. But I'm very pleased to greet Leonard Orban, who is the personal advisor of the Romanian president. Welcome here to this panel.

I've been mentioning this panel this morning already about fossil fuel energy, and as it so happened, we were talking about fossil fuels at some point, namely when it was mentioned that we might be -- when we look into a low carbon energy future. And in the restraints that we have when it comes to renewable energies, that we might be talking about a golden age of natural gas.

And I'd like to re-quote this here because it's very important for this panel. And, I would like to ask you Ambassador Jones if we assume that this is so--is it European union taken the right precautions to also secure supplies, taking into consideration that in 20 years from now we might be dependent on energy imports in this sector and it might reach a level of 70 percent of energy imports? Do we take the right precautions here?

Amb. Richard Jones: Well, that's a very provocative question. I'll try and--

Dr. Sylke Tempel: I hope so.

Amb. Richard Jones: I'll try and give a non-provocative answer. But I think we need first to think about why energy is so important. And, in many cases energy is an intangible. You can't see it you can't smell it, you can't touch it. In fact, if you tried to it'd be a shocking experience perhaps. But yet energy is so important. It's really energy is life. We need energy to live from our food, our economy's need energy

to function. So, this search, the quest for energy I think is something that humans will always be obsessed with. And of course, it's a very topical issue now given the disruption in energy supplies that have taken place, whether due to political events in Libya, North Africa, or to natural events in Japan.

So, energy security is very much on our minds today. And, I think in Europe it's been on your minds for several years. Particularly, you mentioned natural gas because of the, the shutdowns in the supply of natural gas which have occurred in 2006 and 2009 because of political disputes unrelated to Europe in fact. And, so your, your question is a timely one. But, I believe actually that Europe is moving in the right direction. There's a question perhaps if whether or not it's moving fast enough. But, just a few years ago, in the case of natural gas in particular Europe was dependent 90 percent on three countries. Now, your dependency on those countries is down to about 79

percent. It's still very high, but at least that you're moving in the right direction.

So, Europe is diversifying. And, I think that's one of the, the keys words that we should bear in mind as we talk about energy security is diversification. Because any supply can be disrupted no matter how stable it is--that we think it is, no matter how good the political relations are, the fact that the matter is as we've seen a variety of, of events can occur whether natural or political, our security, they can disrupt energy supplies. So, the best thing that we can do as societies is diversify the mix of energy that use and diversify the roots by which we get it. And Europe is doing that.

Can it do more? Certainly any country can do more. What's interesting to me is that in fact you're seeing in Europe, Europe is not it's not a homogenous whole. There are differences in connectivity in Europe within Europe. So for example you mentioned the natural gas as a possible revolution.

Dr. Sylke Tempel: That's good, yeah.

Amb. Richard Jones: And in the United States, there's been the development of so-called unconventional gas.

Dr. Sylke Tempel: Yeah.

Amb. Richard Jones: Which has lead to--

Dr. Sylke Tempel: We might come to the unconventional gas section later.

Amb. Richard Jones: Okay and I just, just to finish up that's led to a very market shifts in prices. And you've seen shifts in prices in Europe as well as a result. But what's interesting is you don't see the, the same price shifts within Europe. And why don't you see that? Is because the other thing that's very important for security is markets. And in Europe you do not yet have unified markets for energy. You don't have a unified electricity market, you don't have a unified natural gas market. In order to have unified markets you need regulatory reform and you also need to build

inner connections, so that you can ship these, these products around. Thank you.

Dr. Sylke Tempel: Within Europe, but the of course the whole idea about diversification is--especially when we're talking about natural gas and we've seen the maps coming up just a second ago it's the pipelines thing. It's really the pipeline thing and how we connect into those places where we get the supplies, where you get the supplies--

Amb. Richard Jones: It's not just the pipeline; that's the point. That's the point is that, is that they are options and Europe has increased its diversification through pipelines and I'm certainly-- the International Energy Agency certainly favors pipelines. But in natural gas increasingly the world is looking at trade and liquefied natural gas.

Dr. Sylke Tempel: Yeah.

Amb. Richard Jones: And, that gives you tremendous diversification. If you can move the natural gas from the ports where it's re-gasified to the markets. And

that means, yes, pipelines, but pipelines not only coming to Europe, but within Europe.

Dr. Sylke Tempel: Thank you. I would like to stay with the key word of diversification for a moment. Because we've been given this key word and that might be, that might be an odd question to you Mr. Conn. I ask it anyway. A few months ago I think, Ed Markey, not very charmingly I have to say, called British Petroleum Bolshoi Petroleum because of the stuff you were doing with Transneft, right? And I would like to ask you really about when we talked diversification it's two levels. It's technological diversification. It's looking at different means of transporting natural gas into Europe specifically. But it's also about diversification of countries. I mean we, we can name it right away--all the southern corridor or most of the southern corridor are projects about diversification. What reasons do you see for diversification of countries? I mean, should we rely on Russia that much, just to ask it plainly?

Mr. Iain Conn: Well, so let me come to Russia in just a second. I just want to agree with some of the things that the, the ambassador said that--I mean firstly, what we got to ask ourselves what's the problem we're trying to solve? We're trying to solve a problem of safe, secure, affordable and energy and climate change. That's what we're trying to solve. And, we thought we were on a path to do that. Choice is key to security. Choice of what energy, where you get it from and who you get from. And I'll come back to your point. What I think people forget to realize is that the key issue today is energy for power and heat. Transports relatively resolved. It'll take a long time to go to electric vehicles, but actually transport is a very small piece of the, of the climate change puzzle and actually it also is in a situation where oil is relatively in plentiful supply.

The big issue is power and heat. And, I would put to the audience that as you said and as Dick's just said, natural is critical to this. And the other thing

that's critical to this and I'm not involved in it is nuclear. And I think we are gonna have to continue with the nuclear journey unless we want to change the equation. Now to your question, energy diversification is absolutely fundamental to security. Europe has four main routes for supply of natural gas. Russia, which takes 20 to 25 percent of Europe's supply today--a rather high a proportion of the imports. The North Sea which is declining, but a secure source of natural gas. North Africa which has now got some rather significant challenges and certainly worrying people about the security there and liquefied natural gas which is expanding. And the fifth which we definitely need to open is the Caspian and Middle East. Because, the geopolitics needs to be diversified as well as the pipelines.

However, to your point about Russia, we are plumbed into Russia, as this map that's just popped up again shows. We are inextricably linked. The molecules from Russia come to your cookers and once you've got

pipelines built and there's mutual interest in supply and demand those pipelines will be kept full. Russia has supplied Europe reliably all the way through the Cold War. And it's in Russia's interest to keep doing so. It's also in Europe's interest to keep taking gas from Russia. Russia will by 2030 still have about 25 percent of our gas. I think it is absolutely wise to be taking gas from Russia. I think we have no choice in our dealings with Russia except to engage with Russia, co-invest with Russia and recognize that mutuality. Because there are new forces at play. The Chinese are looking at natural gas resources as far a field as the Caspian and everyone in this room that thinks that all the Caspian's gas is automatically gonna come west needs to think hard.

So, we need Russia and I think we should absolutely continue to embrace and invest in and with Russia.

Dr. Sylke Tempel: You are not--allow me this second question, you're not troubled at all by recent not-so-

nice experiences in Russia with your president right now?

Mr. Iain Conn: We've had a few bumps, but let me--

Dr. Sylke Tempel: Bumps, oh, that's a charming way of putting it.

Mr. Iain Conn: Well, we--

Dr. Sylke Tempel: Yeah.

Mr. Iain Conn: Well, let I'll, I'll actually I seriously do want to point out one thing. We put \$9 billion into Russia. We took \$15 billion out. Our current interest is worth \$25 billion. We have found that you can do business in Russia. It helps if you're big. But you can do business in and with Russia. And we believe we will resolve our--any current issues that we have and I'm happy to expand on them later, but I don't have any concerns. We have a very strong relationship with the Russia state and I think Europe needs to strength its relationship with the Russia state.

Dr. Sylke Tempel: I'd like to, you know be right there and I'd like to pass this onto Ivan Krastev. You

want--coming from Bulgaria. And Bulgaria being one of those European countries that does not like the idea of too much to be too dependent on Russian supplies. How would you look at the issue of opening a southern corridor; opening a southern corridor without Russia which is basically much of what Nabucco is about, or with Russia, which goes into the South Stream discussion a bit. What is your take on that?

Mr. Ivan Krastev: Let's first start is the disclosure. I'm one of the persons who is not expert here and only GMS knows why...

Dr. Sylke Tempel: Don't say that sir.

Mr. Ivan Krastev: No, no but this is important because I don't believe that there is--first of all country like Bulgaria; West they know this. Listen nobody wants to be a transition country anymore. The dream is to be a transit country.

When you see maps here--basically people have...

Dr. Sylke Tempel: Perhaps we should have transit country partnerships with North Africa.

Mr. Ivan Krastev: People basically like maps, but my analysis and also on this type of dependency--as you know Bulgaria dependency is very high. We're talking not talking about gas, we're talking about oil and now we're even we're talking about a project for the construction of the new nuclear plant on the Russian technologies. So, from this point of view the Bulgarian way of diversification is a very specific one. We're diversifying Russia with Russia. But what I want to make a point is and for me being much more of a political scientist than a specialist on energy, something important is happening here and given the way with talking today. It's the way that things are changing. One is financial austerity everybody talks about this project. How much money are there? And all these projects you're reading day by day and they're telling that they're becoming more and more expensive.

Unknown: Secondly, stability everybody is saying this is stable that is stable. I do believe that Professor Rotfeld made this point also yesterday, we're

living in a world where there is no stability anymore. How stable is Central Asia? Honestly speaking demographically and politically, Central Asia shares some of the major characteristic of the Middle Eastern regimes that collapsed even worst. And, certainly you have a public that have a very high expectations concerning security. Basically, you have risk-adverse publics which are very moody. And given your (inaudible) very serious country like Germany with a very serious government which all the night is changing their nuclear policy because of the public sentiment. And for me the major question is how you're making a security policy that is long term and effective in these conditions?

To answer your question what Bulgaria learned in 2009 and 2006? As you know Bulgaria and Slovakia have been one of the two countries the most hurt by the Russia-Ukrainian dispute; let's put it on this. We learned that the basic problem is not to try to convince Russia or Ukraine to do things that they are

not going to do anyway, but to try to go with this connectivity again and can basically common network of pipelines between European countries. Because everybody likes interdependency which we have now (inaudible) metrically into dependency. This is the major problem. Countries like Bulgaria cannot stay without gas or oil for a long period of time. If there wasn't gas and oil in Turkey and Greece we cannot get them. Because we don't have the 60 kilometers that are connecting the countries. And, this does not depend on Russia. It does not depend on Mr. Putin. We can do it.

But we're so much obsessed with the bigger maps that I don't believe that we're doing enough the small things that depends totally on us. I'm talking about, of course, fascination with maps and gas is not only the fascination of small countries, Professor (inaudible) yesterday gave me a figure which probably you're going to enjoy. In 2009 out of all meetings of Mr. Putin, 86 percent of them according to the official

information was connected with gas. At the same time only 13 percent of Russia exports is gas.

Dr. Sylke Tempel: Just want to a quick follow up and just to break it down to a very specific project named Nabucco. Some observers had said about Nabucco: no money, no supply, no demands, you would have no security either? Or is this a wrong assessment?

Mr. Ivan Krastev: I'm not a specialist on Nabucco, so from this point of view I don't want to make statements basically based on what I read in the papers. The problem with Nabucco, from my point of view is the following: European Union invested too much of its symbolic creditability in the Nabucco project. European Union was telling and telling how important Nabucco is. I don't know is Nabucco a good project or a bad project. And by the way I don't know the same about South Stream. But if Nabucco is going to fail, from the point of view of the voters. Your opinion doesn't not look very seriously. And what we have at the moment is to talk about the common energy policy, but when it

comes to pipeline, the pipeline is for national strategies, not European strategy.

Dr. Sylke Tempel: I would like to add another element into this discussion, Leonard Orban, and that has to do a bit with technology and how it can influence markets. It has been mentioned before, namely shale gas -- unconventional gas -- which is excavated from rocky material by putting a lot of water together with some chemistry.

What happened in the U.S. was that shale gas really sort of gave a push to the markets, also helped to reduce prices on the international market and opened up more supplies on the liquefied natural gas market.

Now, there have been some, obviously, supplies discovered in Romania on shale gas. Do you see, in this kind of technology, something that could be changing the picture in the field in natural gas, especially when it comes to Romania?

Leonard Orban: I think that we will see some changes but only on long term. So, on medium term or

short term, medium term, I don't think there will be a remarkable achievement from this point, obvious. But on long term, of course there will be significant changes.

But let me say a few words about what was discussed before, about the idea of creating a really integrating, functioning internal market in the European Union. I think this is the key issue, not only for the Union but also for the countries in the neighborhood of the Union.

I remember that when it was the last crisis in 2009, it was impossible for Romania to help Bulgaria, simply because interconnection--

Dr. Sylke Tempel: Infrastructure was missing.

Hon. Leonard Orban: --even exist at that time. Now, because of the EU recovery plan, we are very advanced and soon, I think no later than the beginning of next year, the interconnection between Romania and Bulgaria will be achieved. Already, the interconnection between Romania and Hungary is a reality today between Arad and Szeged -- this has been achieved at the beginning of

this year.

So, I think we can do a lot, in terms of building strong relations and, of course, interconnection among the different member states. I think this is a prerequisite for a fully functioning internal market.

Because, as a former EU Commissioner, being part and different in the launching of different initiative, I remember that when I assist my first meeting as commissioner in the college, the Commission adopted a very ambition package on energy and climate change. Of course, in the meantime, several other initiatives were launched. But, however, it was one of the most important initiatives.

I know how difficult it is to achieve this objective, to have a really integrated internal market of the Earth. We are still far away from this objective. But, also--and I will conclude with this, I think, in terms of diversification; I think that Nabucco is an important project. The European Union has invested a lot in this project.

I remember at the beginning of this year, the President of the European Commission paid a visit to Azerbaijan and Turkmenistan. I think it's with very welcoming results and I think that we are closer to, let's say, a really important start in this project.

But there are also projects. Let me give you just one example of the--

Dr. Sylke Tempel: I actually can come back to that later.

Hon. Leonard Orban: Okay, okay.

Dr. Sylke Tempel: Because, well, I'm sure there will be burning questions in the audience already. So the rules, of course, known; please introduce yourself quickly. And perhaps it also helps--there is a gentleman over here--if you'd ask your questions to one of the panelists directly. Could a microphone--where are the microphones, actually? Here. Could you go over here? Thanks.

Mr. Steve Larrabee: Steve Larrabee, the Rand Corporation. Ivan Krastev and the Romanian

representative have said the EU has invested a lot in Nabucco. I would challenge that. I think the main problem is that they've talked a lot about it but, in fact, they've done very little. This is a project that's been talked about and been going on for ten years.

And if you compare that to what was mentioned, how the Chinese have acted, where, in a very short period of time, you had the important building of the Chinese Central Asian pipeline, where the Chinese were willing to invest their own money to see that the pipeline was built. And this has had a potentially very important impact on the energy situation. The EU has put very little money, a few hundred million dollars, perhaps, into it, but over a period of ten years.

And we still don't know whether there are going to be enough suppliers to make it viable and--

Dr. Sylke Tempel: So your question is that you doubt that the project will be followed through?

Mr. Steve Larrabee: Yes. I challenge that, in fact,

the EU really has done very much. The problem is just the opposite. They've talked about it but they--

Mr. Sylke Tempel: Yep, got that. Yep.

Mr. Steve Larrabee: --have done, in-fact, very, very little.

Dr. Sylke Tempel: Thank you. Would you like to go first--well, we then go through all the panel.

Hon. Leonard Orban: Of course, at the beginning, there were many discussions. There were different opinions at the community level. Because we have to look at the Union from two different angles. The first one, at the community level. There was always a full support for this project, and I know very well because I was commission.

On the other hand, there were, at the level of member states, different opinion about this but this is no longer the situation. I think, once again, after the visit of the President Barroso, in Azerbaijan and Turkmenistan, there are concrete results, concrete commitment, especially at the Azerbaijan side. And now,

I think it's at the good moment to really start to implement this project.

From this point of view, there is full support from our side, from the Romanian side. And we are convinced that, let's say, on medium term, these can be an extremely useful project, answering to this demand of increasing the energy security for the whole Union. Not only for one region but for the whole Union.

Dr. Sylke Tempel: Mr. Conn, you also wanted to follow up on this?

Mr. Iain Conn: Well, I did. Look, I feel I've got to do it. I've got to digress into a few facts for a second. I mean, the first thing is, why do pipelines get built? They get built because there's enough resource at one end and enough market at the other. Now, that may sound silly but it's true. That determines when they get built and how big they are.

Now, there is enough gas in the Caspian to build a pipeline to Europe. BP operates it. There's 16 billion cubic meters per annum ready to come in the next phase.

Six going into Turkey and staying there because Turkey's got a lot of demand, which is actually why this pipeline's going to go through Turkey anyway, because there's already a pipeline to the Turkish border and Turkey needs some gas.

And there's ten BCMA more that's going to come into Europe. So I'm highly confident that a pipeline will be built. However, we've got to stop being preoccupied by the word Nabucco. There are three pipelines competing to build the line. That should give us all lots of confidence a pipeline will be built.

The idea of hitching yourself to one line, and a really big line, Nabucco is supposed to be 31 billion cubic meters per annum of gas. Small problem, there isn't 31 billion cubic meters per annum of gas. So unless the European Union is prepared to underwrite the extra capacity, you can forget a 30 BCMA line.

However, please don't think everything is disastrous as a result. Pipelines are difficult to build but once they're built, they expand. And it's

easiest to expand gas pipelines. And where we finally got a breakthrough this year, admittedly after ten years, is we're going to build a ten BCMA line into Europe that's expandable.

There's a competition ongoing right now to bid for it and I'm very confident that a pipeline will be built. What I don't know is who the winning consortium will be. And politicians placing bets, politically, on which consortium ought to win is not a good idea.

Dr. Sylke Tempel: Ivan Krastev.

Mr. Ivan Krastev: I want very much to continue here. And the problem is that what Steve Larrabee said, European Union was doing quite a lot of talking and not enough of doing. But here in Europe, were not distinguishing between the two and this is part of the problem.

Part of the problem was that Nabucco, symbolically, was built as a major political project, which, in the imagination of the people, was not a business project, it was a political project. Don't ask me what that

means, but Bulgarian voters believe that they know.

And now we are learning that there's three business projects competing. And this is a problem in the European Union in the way a non-expert sees it. Do we believe that the market can regulate? Do basically, and how we are going to do it when we know that there are some other countries, China, for example, that they're not sure that market can do it alone, so they are trying to help the market.

And I do believe this is something which is very much the [inaudible] of the European position. When we join, thus promise something, we discover that they have company. When we're not part of the consortium, we are talking about gas promised the Red Army.

This type of ambiguity cannot continue for too long and I do believe this type of clarity is going to be very much needed.

Dr. Sylke Tempel: There's been a question over here by the gentleman, you'll be first here. And then I have a question over here and over here. Yeah.

Mr. Charles Grant: Question for Iain Conn. I'm Charles Grant for The Centre For European Reform. You talked, Iain, about the possibility that Caspian Gas could go east rather than west. And the Russians like to scare us. If we're difficult, they often say, well, you better be nicer to us or we'll send it east. At the moment, there's not a single gas pipeline going from Russian towards China. There's one from Turkmenistan towards China.

How serious do you think that possibility is, given that the Chinese are not prepared to pay the kind of high prices that Europeans are? Is this Russian bluster or might they one day build pipes to east and therefore, create problems for the Europeans?

Dr. Sylke Tempel: Is your question asked specifically to one of the panelists?

Mr. Charles Grant: Yes, yes.

Dr. Sylke Tempel: Okay.

Mr. Iain Conn: Charles, thanks for the question. First thing, I was very careful not to say Russian gas

going to east. I said Caspian Gas. Caspian Gas will go east. There is a pipeline in place. The price of gas in China needs to go up in order for more gas to flow down that line, commercially. But it's there.

What I was saying is, right now, we've got this neat idea that the Caspian can be divided down the middle and everything to the west is going to come to Europe throughout Azerbaijan and Georgia and Turkey. And everything east of that line is probably going to go east.

There is a plan to try and join Turkmenistan to Azerbaijan but there's a bit of history there that needs to be overcome first. The intriguing thing for me, everyone presumes that if you join a pipeline from Turkmenistan to Azerbaijan, the gas will then come west. If you ask the Chinese, they'll say, If you join those two together, we're going to start bidding for the Azerbaijan gas ourselves.

So the point I'm making: I think gas ultimately will come from Russian and the Caspian to China. I

think we're going to have to learn how to share Russia's and the Caspian Gas with Central Asian and East Asian markets.

Which is why, I believe, fundamentally, Europe's got to be exceptionally practical in accessing Russian gas and relationships, accessing Caspian Gas and relationships and joining Middle Eastern gas into this system. It's in Europe's interest and the competition are already hugely active. That's what I meant.

Dr. Sylke Tempel: There's a question over here. Where's the microphone? Yes.

Unidentified: Although we speak here about pipelines, I have to put the question--it's about energy but it's about NLG. Recently, I've seen a very interesting statement coming from Russia about the possibility--when we speak about [inaudible] gas, through the Black Sea, the gas could be transited not only by pipelines but also by NLG. So I would I would like to ask the BP representative, what do you think about this idea, especially in consideration and Mr.

Orban also, Romania has a project on energy, together with Georgia and Azerbaijan, are trying to develop the so-called Agri project, which means using the energy solution for bringing gas from Azerbaijan to Europe.

Mr. Iain Conn: So if you're directing the first part to me, very briefly, LNG is very important but it's more expensive to transport gas by LNG than by pipe. And LNG from the Black Sea through the Bosphorus would be a big issue. LNG across the Black Sea is potentially viable but if you can run pipelines across the countries around the Black Sea, LNG won't compete. So I don't think LNG is a practical solution intra the Black Sea, although I know there are people in this room who will disagree. LNG is important for Europe and particularly since the United States has now expanded the amount of gas it has available. This means that more of the global LNG will be available for Europe. And I think that's very encouraging.

Dr. Sylke Tempel: I'd like to ask first if the LNG were there, you know, opinions that LNG is a viable option for Europe on the panel.

Mr Leonard Orban: It is.

Mr. Sylke Tempel: Yeah.

Hon. Leonard Orban: May I react?

Dr. Sylke Tempel: Certainly.

Mr. Leonard Orban: So the Romanian's opinion is that the Agri project, which was mentioned, is very realistic and a very achievable one. Why? Because, firstly, according to our estimation it's the cheapest project, can be achieved in a relatively short period of time. Why? Because infrastructure or part of infrastructure already exists. We have the terminal in Constanta for NLG. As I mentioned, interconnection with Hungary is already achieved. So I think that it's a question which can be, let's say, put in place, implemented on the medium-term. While if we discuss about Nabucco, I think here it's about long-term.

So I think this is why we are investing a lot, not only in terms--it was when I mentioned investment, I mentioned not necessarily only money but also political, let's say, efforts, the willingness to, let's say, achieve this project. For example, with Agri, practically the political will exist, partially the infrastructure is in the place. So I think--

Mr. Iain Conn: Where's the gas going to come from?

Hon. Leonard Orban: From us, Azerbaijan and Georgia.

Mr. Iain Conn: But we are currently the only operators of all the gas that's been discovered that's freely available in the Caspian and the Azerbaijan government, AIOC, BP, and all of our partners don't want to bring it through a new route because we've already built a pipeline to the Turkish border. So where is the gas going to come from?

Mr. Leonard Orban: So let me remind you then an agreement was signed for this gas. An agreement among

the Azerbaijan, Georgia, Romania, and Hungary. It was signed, I think, several months ago.

Dr. Sylke Tempel: But if I may follow up on this one, the question is still viable, if I may say so, you know, that you might have the infrastructure in place but you have to have something that you have to channel through. And isn't that a problem about, you know, the south corridor in general? You know, we have Azerbaijan but we don't yet know for sure what about Kazakhstan? Do we get--we have all these legal issues of the literal states of the Caspian. How secure are we on the supply side?

Hon. Leonard Orban: So, as I mentioned, the agreement is signed with Azerbaijan and Georgia, Romania and Hungary. So here I think we have a clear commitments from Azerbaijan and Georgia that this project will be implemented. So I think at this moment we have no doubts, there are no--of course, uncertainties always exist but, however, while having a

legal document I think we are confident that this project can be implemented.

Dr. Sylke Tempel: Go ahead.

Mr. Ivan Krastev: I have just a practical idea. We can make an exhibition of all the contracts that have been signed for the last ten years between the governments and their contracts.

Dr. Sylke Tempel: Do you think this room would be enough, though?

Mr. Ivan Krastev: I believe it's not because at least all the country has been part of ten different pipelines that does not exist. But it makes people feel nicer.

Dr. Sylke Tempel: Ambassador Jones, please.

Amb. Richard Jones: I think that the little exchange we've had here on this podium illustrates a key point when you're talking about pipelines is that you often have two sets of agreements. You have intergovernmental agreements and then you have commercial agreements. And you need both. The

intergovernmental agreements usually come first. They provide a framework, but until you have a commercial agreement you're not really going to see, you know, any gas flowing. In terms of your question about Kazakhstan, Kazakhstan is not going to be a major supplier of gas in the next decade. Maybe in the following decade if Czajcan II comes along, eventually there will be gas from Kazakhstan, but we expect that Kazakhstan will probably consume most of the gas it produces domestically. It won't be a major exporter for at least a decade. So you can't count on Kazakhstan to fill any pipelines.

I think it's much more interesting to think about the possibility of Turkmenistan. There are some offshore fields in Turkmenistan which are stranded which could be interconnected with the Azeri fields and that could augment the Azeri volumes. That's much more realistic in the timeframe we're talking about.

Dr. Sylke Tempel: Thanks. There's been a question over here.

Mr. Mohammed Elzakra: Mohammed Elzakra from Egypt. After the revolution we found that the revolution in Egypt and many other countries it wasn't only for political reasons but we discovered that there is a kind of energy democracy seated, I mean, talks about the price of gas that's exported to neighbor countries and regions were really a question for the protesters. So a group of my friends, we formed an establishment, political party for renewable energy and sustainable development in the country. But we discovered--and this is my question--that there no real political awareness among the governments of the country into the use of the energy resources in the country; either renewable or natural gas, for instance. The question is for the ambassador and Conn. Do you think that there is, after the reform taking place in the Arab world, that there is from the U.S. and Europe point of view there is a kind of intentions towards building the capacity of the political leaders for matters related to energy security? Thank you.

Amb. Richard Jones: I can't speak to specific countries in the Middle East, but in fact the International Energy Agency is very interested in promoting understanding of security issues worldwide. We're focused, of course, more on consuming countries than on producing countries. We have very active programs with China, with India, with Indonesia on emergency response and how they can develop better their energy systems to be more robust to provide for their security. Certainly we'd be willing to work with producer countries but we haven't really been doing that up until now.

Dr. Sylke Tempel: Mr. Conn, you've been asked this question.

Mr. Iain Conn: Very briefly. I mean, BP's the largest foreign energy investor in Egypt and been there for 50 years. We're absolutely committed to your country. The exciting thing for Egypt is that it's got oil and gas. The oil actually tends to be on the east coast, going east from the Gulf of Suez and there's an

exciting new discovery of gas in the Nile delta. This is very exciting for both Egypt domestically and for Europe.

There are already two or three pipeline corridors across the Mediterranean from Tunisia, Morocco, and Libya, actually, but a small one. I think the probable security conversation on energy is first, does Egypt have enough energy for itself? That's always got to be the first priority. And then if there is enough natural gas, probably LNG into Europe is the most practical thing. But we are engaged with your country on this. In fact, the U.K. Prime Minister went down to Egypt three weeks ago and our CEO's already been down to talk to the new government about energy strategy.

Dr. Sylke Tempel: Thanks. Yes. There's been a question over here.

Unidentified: (Inaudible). I am with the Centre for European Studies here in Brussels. The question is we are in Brussels, after all, and I would like to ask you about the importance of the third energy pocket of the

European Union. We have been talking about interconnectors. Just to give an example, you probably would expect me to speak about Poland but within Spain and France there is one very narrow interconnector. And if there are problems with the gas coming from the south, France immediately might feel the heat. So the question is about the single market, which is one of the priorities of the Polish presidency and it's also about energy because we find ourselves in our relations with our friends and partners in Gazprom of paying the second highest price in Europe, 30% more than Germany pays for the same gas. So the question is how European are we here?

Dr. Sylke Tempel: Is there someone you wanted to direction specifically to or--? Mr. Conn. Well, you're in high demand. So...

Mr. Iain Conn: I did help advise the first Barossa Commission on the first energy package. I haven't been involved in the subsequent ones. I think you make an extremely good point and I think it's a general point

about security which was also mentioned by Leonard which is security of energy to our borders in Europe is really important. One thing that adds to security is clearly an interconnected infrastructure where you can have gas on gas competition. So that Russian gas competes with Algerian gas via Morocco competes with Egyptian LNG competes with North Sea gas, and probably the best place you want to be in that circumstance is somewhere around the Netherlands because you'll probably be able to get the cheapest gas available in Europe. So I completely agree we need gas on gas competition. We're going too slowly in building the cross connections inside Europe. This is also true for the electricity market.

Dr. Sylke Tempel: Thank you. There's been a question over here.

Unidentified: Thank you very much. All the discussions about gas transit is in turn discussion about price and conditions. I wonder what panelists will think about price and conditions of Russian South

Stream Project, have in mind it's politically sensitive and environmentally dangerous and economically just disastrous. Five, seven times more expensive than rehabilitation of existing gas pipelines. Thank you.

Dr. Sylke Tempel: Anyone you're asking this question specifically? Not anyone. Who of you want to take this question?

Mr. Ivan Krastev: Coming from Bulgaria, we like all pipelines, nevertheless how much they cost.

Dr. Sylke Tempel: That has become quite obvious during the panel. Have you figured out somebody who you are handing the bill too, then? Have you, Ivan, figured out somebody handing the bill to, then?

Mr. Ivan Krastev: For me, the biggest problem with this type of a competition of pipelines is the way it takes place, because if we're going to be serious also about this energy policy, you're going to see that on one level European Union should be very strong because it's consumer who is paying best. But European Union cannot play its strengths because you have the national

fears of the different markets, and this different markets starts to negotiate directly with the supplier. Well, basically, that's (inaudible) doing and I do not believe that we should not blame gas problem for this. This is part of their strategy. Then going and telling, for example, Bulgaria are we going to be in South Stream or do we want this to go through Romania? Or do we want to have here and there? And all these type of negotiations going very much up. Plus, and let's open this, there is a huge political potential. There is a talk about new jobs. There is a huge corruption potential in the political causes I do believe very much living well when there are big energy projects around.

And for me, the biggest problem is that we had this talk for ten years. This is creating a lot of bad blood. Remember the North Stream and the bad blood between Germany and Poland? At the end of the day, we don't end up with more regulation and doing things that depends on us. We end up with bigger and bigger

projects which end up being more and more costly. And from this point of view, Bulgarian government window was attacked and saying, "Why you go with the Stream? Why are you not interested only in Nabucco?" Because Nabucco is European project. I don't believe that part of the answer was quite logical. They said is not Italy an European country. Are not European companies which are part of South Stream? This is the basic problem. All of the major Russian projects outside of Nabucco has the support of big European companies. And try basically to pretend that we don't see this. Hearing--totally double mind where the European and American businesses have a different view on the situation than European politicians, I do believe this is creating a situation which is very unsustainable and probably the only one who is benefiting from this is the PR companies. Which are basically cashing from both sides.

Dr. Sylke Tempel: Well, if you really want to be successful these days you have to become a spin doctor. There has been a question from the last row over there.

Ms. Niki Tzavela: My name is Niki Tzavela. I'm a member of the European Parliament and a member of the Energy Committee. It looks like all the pipelines we've been talking within the committee, they have a supplier, Kazakhstan. So it seems to me that Kazakhstan promises everybody that it will supply them. But, anyway, my question is the following. Do you find Europe's efforts to exploit and explore its own resources sufficient? Because in the last package, the third energy package we had we tried to include exploit and exploration within the actions to be taken and we didn't have a positive reception on this. Do you think that Europe has its own resources instead of depending on Russia? We are bridging up to this, this is good, but now we have the turmoil in North Africa and Middle East. What are we going to do? We have to depend on our own resources. Do we do enough on this that most recent Leviathan Deposit offshore Israel. Is this a serious one? Thank you.

Mr. Iain Conn: So, firstly just a word on geology. A lot of people think the United States has suddenly just discovered all this shale gas. That's not true. We knew it was there; we just couldn't produce it economically. And technology has suddenly unlocked that. So I think it's quite important that people realize that geologists for the last hundred years have studied most parts of the earth's surface and they know where the most likely places for oil and gas are.

Now, is there further potential in Europe? Yes. There's further potential in the North Sea for sure. There is also potential on land in Europe, but the data most geologists would agree on is that there is some further gas in the Polish Basin, the Austrian Basin, maybe some coal-bed methane in southwest Germany. But the quantities that are emanated, because the quantities of coal or the geology is reasonably well known, the quantities will not most likely change this equation.

So we will always be import dependent so we will have to manage both domestic gas and new supplies. We haven't talked about energy efficiency, but that's probably the most important thing we can all do.

Finally, your point about Israel. Yes, it is serious. There is gas off Israel.

Dr. Sylke Tempel: Which means what, in connection with Europe?

Mr. Iain Conn: In the matter of Europe, look, the gas quantities of Israel are probably material enough to change Israel's balance. They're not going to be material enough to change Europe's.

Amb. Richard Jones: Well, to put it in prospective, the two finds off Israel equal Shah Deniz.

Dr. Sylke Tempel: Okay.

Amb. Richard Jones: So, they're as big as the Caspian. So if the Caspian is important, Israel's potentially important.

Dr. Sylke Tempel: Well, I mean, to be a bit on the magical side of where we started in the beginning, if

the findings are that big and it's Shah Deniz, Shah Deniz I or II, by the way, this is really big.

Amb. Richard Jones: It's a huge market.

Dr. Sylke Tempel: Could you even imagine Israel becoming a gas exporter?

Amb. Richard Jones: Certainly. They ought to. But you're right. I mean, in terms of Europe's demand, Europe will demand hundreds of billions of cubic meters a year and import a good portion of that. So no one supplier is the magic bullet. But that's the point. You get more security by diversification. But then it means you have to be smart and it doesn't mean just diversification of your supplies of natural gas, as Iain pointed out. It means doing things like energy efficiency and it also means doing alternative forms of energy. You can generate electricity with renewable energy. There's a lot of inherent resources in wind and solar in this continent that can be exploited more and reduce the demands for gas.

Dr. Sylke Tempel: Which of course requires major investments because these are all big infrastructure investments, or it's major investments in technology, or it's major investments in alternative sources of energy.

Amb. Richard Jones: Everything requires investment.

The Hon. Leonard Orban: There are obligatory targets in the Union so there is already legislation, for example, for the renewable. There is also Europe 2020 strategy with clear objectives established not at the community level but also by every member state and this has to be achieved during the next 10 years. So it is clear it's a commitment. Sometimes it's a legal commitment so this has to be achieved.

Mr. Ivan Krastev: I do believe there is also something that everybody knows but we are not talking seriously. One of the major potentials, of course, is Russia itself. If the Russia energy efficiency is going to be on the level of the European Union, this is going to be \$80 billion per year. And I do believe this is a

serious energy conversation with Russia, basically, you have a very ineffective domestic systems and others and when people talk about diversification. But part of the problem is that we are so much focused on our small problems and our fears are so much national, and we so much like the maps and basically to sign contracts with each other about oil and gas that are probably never going to come, that I do believe we are missing these policies which can also change the nature of the energy dialogue. Because I do believe also for Russia, it makes a big difference. Eighty billion. It's not a negligible sum of money, especially after the financial crisis.

Dr. Sylke Tempel: Right. Yeah.

Mr. Reinhardt Butikofer: My name is Reinhardt Butikofer. I'm a member of the European Parliament and also sitting on the Energy Committee. Most of this discussion has been about the supply side. I would want to draw more attention to the demand side, too. There are studies out there that by implementing state of the

art technology, we could reduce gas consumption throughout Europe several times over the hypothetical supply from Nabucco. My question goes to Ambassador Jones. What's your take on this option? And isn't it much more economical to invest into energy efficiency, for instance, in the context of building stock than investing in all those pipe dreams?

Dr. Sylke Tempel: Here we have it, the key word, pipe dreams.

Amb. Richard Jones: In our scenarios, energy efficiency is the single most important thing we can do to address our energy balances. It's absolutely true. We estimate, for example, if you're talking about reducing emissions, that in the short run as much as two-thirds of the reduction emissions can come through energy efficiency. If you go longer out, those numbers drop because you pick the low hanging fruit first. But even out to 2050 we estimate that 38%, almost 40% of the emissions that need to be reduced to prevent global warming would come from energy efficiency. And those

same numbers translate roughly equivalently when you're talking about consumption and security. So, yeah, absolutely.

The problem is that a lot of investment in energy efficiency has to be done by individuals. It's hard to put together big projects and to get the investment moving. It's a frustrating area. It's an area we work on. It's an area other energy interested agencies work on. And so far nobody has found the trigger, because many of these investments, I mean, we talk about the need for a carbon price, but in energy efficiency, many of these investments are already economic and they're not happening. And we need to figure out as a society how we can make these occur.

One of the problems is so-called principle agent problem, which is the individual that has to do the investment isn't the one that benefits from the investment. For example, a tenant and landlord. If the landlord invests in better insulation for the house or for the apartment, it saves energy but it's the tenant

that gets the benefit. So the landlord doesn't invest because he's not going to reap the benefits. Or you have a situation where a tenant won't invest because, "I'm only going to be in this place a couple years," and maybe he thinks it takes five or ten years for the investment to be amortized and he doesn't want to invest in something that a future tenant will benefit from. So that's the, you know, the kind of issues that we have to wrestle with.

It can be done and, in fact, Germany's done a lot, but a lot of other countries could learn from Germany's example.

Dr. Sylke Tempel: Thank you. Yeah.

The Hon. Leonard Orban: Also talking about the money and investment in energy efficiency and not only also in the infrastructure. I think we have to take into consideration that very soon we will start very tough negotiation at the European Union level in terms of the next financial perspective. And I think that energy should be included in more substantial than it

was before. So, I think in a way or in another, we have to find, let's say, resources, financial resources, also to, let's say, to deal with this huge priorities for the Union.

Dr. Sylke Tempel: Thank you. There's one last question I would like to take here.

Mr. Andrew Michta: This is Andrew Michta, Rhodes College. A question to Mr. Conn from BP. To come back to shale, especially the Polish-Austrian Basin issue. Is your assessment that that will potentially not change the equation based on earlier studies? The reason I ask, I believe there are four American companies currently drilling in Poland. The yields will not really be known until about mid-2012, if then, and judging by the intensity of the effort, there is at least a potential that there may be a substantial outcome. Could you comment on that? When you say that the shale gas will not change the equation of gas infrastructure in Europe overall? Thank you.

Mr. Iain Conn: Yes. I should just qualify my two earlier comments because I totally agree with what Dick Jones said. Look, everything changes the equation in its own right. I mean, you know, the question is, is it going to be material enough to transform the equation? And my comments based on our view of the volumes likely to be present, not the productivity of the wells, I think it's highly likely that technology in unconventional gas will improve and improve. And just to give you an example, in Oman we went down there with a 50 trillion cubic feet reservoir that Shell had discovered and couldn't produce it. We now think it may be a 100 trillion cubic feet and we think we might be able to produce it. Technology will help.

I think that all of this domestic gas, and the same with Israel, although I still differ about the quantities, though that's a matter of opinion at the moment, all of these things will help change the equation a bit. I don't think it will transform the equation and we'll still be fundamentally reliable on

Russian gas. We'll be fundamentally reliable on multiple other sources of gas and we should encourage them and develop them.

And I also agree with the Ambassador that energy efficiency is the thing that we seem incapable of talking about properly. If you take cars today you can double the fuel economy--double the fuel economy--of the world's car park, double it today with today's technology. The problem is, governments won't force people to change their cars. That'll change.

So I'm actually an optimist, not a pessimist, and I think all of these factors will ultimately help us.

Dr. Sylke Tempel: Ambassador Jones.

Amb. Richard Jones: If I could just add a couple of point's to Iain's, and I agree with your points as well.

When it comes to Europe, it's not just the size of the resource base, and it's not just the technology; it's the ability to get that gas produced out of the

ground. And there are two additional inhibitions or obstacles that you have to overcome in Europe.

One is the legal regimes. In the United States, a lot of people are very eager to see gas produced from their land for a simple reason: they get a share of the profits. Because in the United States, a lot of landowners own their mineral rights. In Europe, very few landowners own their mineral rights. And therefore, somebody's going to build a well and I'm not going to get anything out of it? Forget that. And so there is a much less receptive environment by the landowners in Europe to see gas exploited, because they're not going to get a share of it. That's something that, though, is a regulatory question that could be changed.

The other factor is that in the United States we have a tremendous network of pipelines. Almost everywhere you want to drill there's a pipeline nearby. So to hook into that network is very inexpensive in the United States. In Europe, the pipeline network is much less developed than in the United States and therefore

it is going to be longer or you'll have to go longer distance from your wells to hook into the network and that raises the cost. So until Europe's pipeline network is better developed until its regulatory environment is improved, even if you've got the technology, even if you've got the resources, you're not going to get the same impact as in the United States. And I agree with Iain that probably the resource is less.

The place where we're hoping will be a game change, where shale gas could be a game changer is in China. China has large basins. They have a large market. And if Chinese shale oil takes off, or shale gas takes off, sorry, it could substitute for the use of coal in Chinese power plants. That would be huge. You know, natural gas emits, when it's burned it obviously emits CO₂. But in terms of the power produced, it's half the CO₂ from a coal plant or even less. So that just by switching from coal to natural gas you can buy a lot of time. And that's what we're hoping for, is that China,

which probably doesn't have the same inhibitions in it from the legal regime as in Europe and, you know, if it has the backing of a strong central government, you could see fairly rapid development in China. Having said that, we're talking 2020 and beyond in all of this. It's not a near term thing. It took over ten years for the shale industry to develop in the United States and it only became known in the last few years. But they've been working on it for a long time. Of course, now the technology's perfected it'll spread more rapidly. But still, there are a lot of barriers to it so it's not a near term fix at all.

Dr. Sylke Tempel: Yeah. Politics, Pipelines, Pipe Dreams. I guess we got a glimpse of these and the complexities of the issues concerning technology, investment, private investment, politics, political world, etc., etc. I mean, we have obviously a huge to-do list. I will ask just to wrap up this panel an impossible task from you on the panel. If you look at this to-do list and the things we've been talking about

in the last hour and 50 minutes or something, what would be ranking very high on your top priority list? Very quickly, if you could go from left to right. Ambassador Jones.

Amb. Richard Jones: Is that me first?

Dr. Sylke Tempel: yeah.

Amb. Richard Jones: What I said in the beginning: unify the markets. Unify them through regulatory means, through commercial means, and through physical means by interconnections.

Mr. Ivan Krastev: I do believe that it's also very important to change the policy debate but not on the levels of the experts, but the public debate. I do believe that there are such expectations being created and people are so much forced to believe that tradeoffs are not going to be done that you propose nuclear and also diversify from Russia and also do this and that, it is going to come at the same time not affecting the prices. If this conversation is going to continue, I do

believe that politicians are not going to do anything on the must list.

Dr. Sylke Tempel: Thank you. Mr. Conn.

Mr. Iain Conn: Three things. Energy efficiency, which is a major challenge but we must tackle it. Second, energy diversification because we must do that for security reasons, and the third, the most difficult, is to put the price of CO₂ up. And I think there's not enough courage to reduce the number of allocations in the European trading scheme. It's in our economy; if we put that price up to \$25 to \$40 Euros a ton, which might sound like a strange thing for an oil man to want, then we will start to change the dynamic.

Dr. Sylke Tempel: Thanks.

The Hon. Leonard Orban: I see beyond all what was mentioned and I fully agree with these. I think solidarity and coordination.

Dr. Sylke Tempel: Ladies and gentlemen, you see we do have quite a to-do list. Thank you, panelists, for this very lively debate. Thank you for all your

enlightening questions. You will no longer be denied your well-deserved coffee break.