Good afternoon. Before I begin I would like to thank the Verbandes Erneuerbare Energies for having invited me here to speak. As someone who has worked on renewable energy in the past, it is good to come back to this pressing and important issue if only to learn from you, the practitioners, how renewable energy might contribute to enhancing many countries own energy security.

Perhaps as an introduction if I explain just a little bit about who I am and what I do this will introduce some of the issues I would like to cover today.

First of all my specific background is not in renewables but in the geopolitics of oil particularly Russian oil My initial set of reasons for examining what was then Soviet oil and gas some 23 years are just as relevant today as they were then. I sincerely believe that in order to understand Russia, the Russian economy, and the motivations of Russia's leadership--past or present--one needs to understand the significant contribution that oil and gas make to their economy. And It is significant. In 1986 Soviet oil output peaked at over 10 mb/d.

Today, Russian oil output has scratched its way back nearly to this landmark, but output in both oil and gas is stagnating. In 2005 growth in Russian oil output was %2.4 percent and in fact gas output has been flat since 1999. In 1986 the overtly impressive production figures in both oil and gas masked the reality of a collapsing Soviet economic system that manufactured little that the world wanted to buy and hence was relegated to the unenvious characterization of an early 20th century industrial economy largely commodity based.

In 2006, more than 20 years later the largest contributor to Russian GDP, national budget revenue, and its positive trade balance are exports of oil and gas. This is the year of Russia's Presidency of the G8 and President Putin has declared that 'energy security' is the topic he wishes to cover within this framework. As the G8's only net hydrocarbons' exporter, is there any wonder then why President Putin has looked to the twin engines of Russia's economy as an attempt to rank head and shoulders with the leadership of the G7 nations? Therefore is there any wonder why the citizens of the world should not scratch the oily surface of the Russian economy, of Russian oil

and gas and of Russian foreign policy, in order to see what lies beneath? Without a doubt, the Russian Federation, and Russian culture, are both great respectively. But the path to a successful and prosperous future should take into account the obvious mistakes of the past and learn to embrace proven policies in the energy field that will work to deepen Russia's own energy security and therefore contribute to the energy security of the global economy. As the Task Force Chairman on Energy Security and Transport in preparation for the G8 Summit, our group will push for meaningful energy market reform, for real market access to investors who want to invest in Russian energy and transport projects, and for greater transparency and balance in the producer-consumer dialogue as it involves the Russian Federation. There is no longer any ambiguity that Gazprom, the Russian gas monopoly, is analgous to the state. Therefore as Gazprom moves into markets abroad, for example as it was rumoured last week that it is interested in Centrica the UK largest gas distribution company, why shouldn't non-Russian investors have the same access to energy and energy infrastructure in Russia itself? And there should no longer be any ambiguity that when Gazprom threatens

or stops gas flow to countries like the Ukraine, as it did in early January, that the Russian state that has essentially signed off on using energy as a tool for political leverage and influence.

Secondly, for the past four years I have worked on an ongoing basis in the capacity of an advisor on energy matters to the North Atlantic Treaty Organization. At NATO, I've advised and consulted on a range of topics covering critical infrastructure protection, energy supply and dependence, and of course energy security issues. Most of you I am sure are wondering what role NATO, as the world's most pre-eminent collective security organization, has in the field of energy, more precisely in the field of energy security, and even more precisely in the security of energy supply? The answer is that it presently does not have a clear and well defined position on this issue. The reasons for this are multiple but the reality is that NATO as an institution could and I dare say should live up to its mission as a consultative body on matters of security concern to its Members and Partner countries. On a very basic level energy is one of the globe's life support systems. Therefore when access to energy is hindered or

the systems that transport it are destroyed the cascading effects of this affect the life of everyone on this planet. This is a real security issue not only for the comparatively well off citizens of NATO members but more importantly for the poor and impoverished nations of the world who carry a disproportionate economic burden of providing energy to their citizens. Risks and threats to energy security are therefore very real global security issues and ones that NATO needs to examine within the present security framework. There is no doubt that, for example, the large scale introduction of fuels developed from endogenous resources would in and of itself contribute to lessening security concerns from the global trade in hydrocarbons. To this end, I applaud the steps your organization is taking to introduce these fuels and other alternative energy technologies as a step towards enhancing global energy security.

Second, over the past twenty four months oil prices have more than doubled and NATO should be interested particularly in what the producing countries are doing with their oil revenue particularly as this revenue provides liquidity for defence expenditures. Iran is a

case in point. The Iranian economy has reaped the benefit of high oil export prices and has recirculated some of this export revenue by purchasing advanced weapons systems from both Russia and China. Importers of oil, not the least of which is the United States are essentially helping to fund the global war on terror by exporting their liquidity to some countries which in turn re-export a portion of this revenue to terrorist organizations. In short, not NATO as an institution but NATO countries like the United States are essentially funding both sides of the war on terror. The US exports revenue to oil producers, which accounts for approximately one-third of the US trade deficit, at the same time it pays millions to protect the shipping lanes through which much of the world's exported oil must pass. This must stop and I suggest to you that this is one of the drivers behind the Advanced Energy Initative that the US President referenced in his State of the Union address earlier this month. To bring this point full circle, NATO is focused on the global war on terror but has not yet examined in detail the energy component of terrorism. I am the receipient of a NATO grant which is being used to fund the NATO Forum on Energy Security which will take place in Prague, Czech

Republic next week (February 22-24th). In Prague we hope for the first time to examine the issue of energy security in its broadest possible context, to drive the issue forward and to send the message that energy security is no longer simply a national security concern but is a transborder, collective security concern. NATO as an institution does not necessarily need a defined position on energy security but NATO as an institution should be expected to live up to its mandate to address in a consultative manner the security concerns of its members and energy security is one of these.

Before leaving the issue of energy at NATO let me say that the NATO Science Programme has in the past and I am certain will into the future address energy issues. The NATO Science Programme was founded in 1958 with the establishment of the NATO Science Committee. The committee chairs at the time, asserted that progress in the fields of science and technology can be decisive in determining the security of nations and their positions in world affairs, and stated that science and technology was an area of special importance to the Atlantic Community.

In 2003 the Science Programme underwent revision in line with Alliance transformation focusing on countering new threats, and the Programme now concentrates its support for collaboration on security-related topics of Defence Against Terrorism or for Countering Other Threats to Security. A new name was selected to illustrate these changes which is the present NATO Programme Security through Science. It is through this programme that the grant was made to me to help fund the NATO Forum on Energy Security and it is through this programme that I am certain NATO would welcome the creativity, insight, and inspiration of those in this room today who wish to work on a collaborative basis with your colleagues in NATO Partner countries on the science and technology of renewable energies.

Third, I come to you as a senior fellow at the Institute for the Analysis of Global Security based in Washington, DC. We have a broad mandate that charges us to look at all aspects of energy security including the threat of terrorism, threats to energy supply, and the role that renewables can play in moving America off its dependence on

imported oil. While I personally work on the geopolitics of oil, my colleagues Gal Luft and Anne Korin have worked very hard in establishing the Set America Free Coalition which is successfully supporting the passage of the Vehicle and Fuel Choices for American Security Act (S.2025 in the Senate and HR.4409 in the House). This bill, among other things, calls on the US to reduce its comsumption of hydrocarbons by 2.5 mb/d by 2010 and by 10 mb/d by 2030. It calls on government to assist manufacturers to re-tool to produce more fuel efficient vehicles, to move fuel efficeient technologies into the market such as tires, and to fund

- Production incentives for cellulosic biofuels beyond those provided by the energy bill;
- An Alternative Fueling Infrastructure Trust Fund for installation of alt fuel pumps;
- Ramp up to standardizing flexible fuel vehicles;
- Consumer incentives for purchasing of efficient vehicles, beyond those provided by the energy bill;
- Incentives for private fleets to purchase more fuel efficient vehicles; and
- Transit-oriented development incentives to reduce vehicles miles traveled

We believe that this bill and its components has resonated with the US President as reflected in the Administration's Advanced Energy Initative. Particularly the Administration's initative provides for :

The President's Solar America Initiative. The 2007 Budget will propose a new $148 million Solar America Initiative – an increase of $65 million over FY06 – to accelerate the development of semiconductor materials that convert sunlight directly to electricity

Expanding Clean Energy from Wind. The 2007 Budget includes $44 million for wind energy research – a $5 million increase over FY06 levels. This will help improve the efficiency and lower the costs of new wind technologies for use in low-speed wind environments. Combined with ongoing efforts to expand access to Federal lands for wind energy development, this new funding will help dramatically increase the use of wind energy in the United States

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The total cost of the Advanced Energy Initative is some 55 Billion US dollars and when implemented will significantly advance research and development on the science and technology of renewable energies.

In closing, I hope I've provided some insight into the political, economic, legal and bureaucratic components of energy security. I would like to congragulate and encourage your continued dedication and enthuasism in bringing energy to

market and in dong so helping Germany and the world the drivers of their own energy security. Thank you and good luck.