

## **Energy: Responsibility for the Future**

Greetings honored guests, members of the Vienna Economic Forum and my esteemed colleagues. It is truly a pleasure for me to be speaking to you today in front of such an august group of individuals. I hope you will appreciate my sentiments as much I have enjoyed delivering them.

I would like to begin with a Native American proverb which says "We do not inherit the earth from our ancestors; we borrow it from our children." While inherently honest in its simplicity, it is so powerful in its brevity because it expresses how our actions today can have long term repercussions on future generations. No longer can we afford to be insular about our decisions because we now know that these seemingly simple choices are in fact part of a larger more complex matrix with infinite outcomes and consequences. Examples vary from sector to sector but as the leaders of today we have the duty and moral responsibility to listen to our consciences and make wise choices about our collective futures.

Mostafa Tolba, Chairman of the Commission on Sustainable Development has a quote which simplifies the crux of my talk, he mentions, "Achieving sustainable development is perhaps one of the most difficult and one of the most pressing goals we face. It requires on the part of all of us commitment, action, partnerships and, sometimes, sacrifices of our traditional life patterns and personal interests". Tolba encourages us not as individuals but rather as humans to work together to ensure our own existence. In some way it is a 21st century version of the Native American proverb I mentioned earlier.

In conjunction with other leaders, the people in this room can influence the policy of tomorrow with our words and actions. When I reflect on the state of the world today I always come back to what I consider the two largest issues which are energy sustainability and security. In order to continue with our present industrialized standard of living we need to ensure that both of these goals can be reasonably met while limiting our impact on the planet. Although as individuals we have to consider the role we play in these issues we must also consider how cities, regions, nations and even economic trading blocs can affect energy.

As an individual that is well versed in the policies of Turkey and the Black Sea I can discuss how as Turks we are moving toward realizing these goals. With my talk I will outline the current state of affairs in Turkey, mention some of the solutions that are being implemented and then end with some general conclusions about Turkey in a global context.

### **Moving toward sustainability:**

Having signed the "United Nations Framework Convention on Climate Change", Turkey is committed to keeping greenhouse gas emissions under control. Since the goal is to maintain emissions at the level of 1990, the government has intensified its focus on renewable energy sources.

Turkey enacted its first specific renewable energy law in 2005 likewise titled, "The Renewable Law". This law covers wind, solar, geothermal, biomass, biogas, wave, stream, tidal and most hydroelectric generation facilities. In fact Turkey's wind power potential is the second in Europe after UK due to its 8,000 km of coastline and windy inland sites. I guess you could say that next to the Brits we are also just full air (wait for laughter) In addition to this law there are also provisions related to renewable energy in secondary legislation and in the Electricity Market Law, which authorizes the Energy Market Regulatory Agency ("EPDK") to take measures in order to promote usage of renewable energy.

There are two important points I would like you to take from this barrage of information. First and a bit worrying to admit is the pace of the legislation. While some countries in Europe have had a committed program of conservation since the late 1970's, Turkey is just beginning to realize the importance of energy sustainability and the impact that our country is having on the earth. I would also posit that we need to do more in order to inform our citizens about how simple daily efforts can be made by individuals in order to conserve

our natural resources.

Additionally, we can see that Turkey has now made a committed effort to energy sustainability but let us remember that there are a lot of other nations that around not as forward thinking as Turkey. As Turks we need to make ourselves a model to our neighbors in the region. My hope is that by implementing certain programs such as recycling, conservation or windpower, we will encourage our neighbors to follow suit. I am not sure how wind forms. But the wind knows how to do it, and that is the important thing. (wait for laughter). What I do know is that we can educate others about our programs and have an impact on them.

My second point is to highlight the effort that is being undertaken to meet these goals. As a nation which is still considered "developing" often times the Turkish economy can be severely influence by the slightest of international pressures. Turkey is making a concerted effort to be dedicated to its environmental goals even if that means there could be some impact on the economy or the GDP. I think that the recognition that energy sacrifices need be made only further emphasizes the point that Turks understand the importance of environmental issues and are committed to seeing them through. We would like to be in line with our European partners and implement processes that promote sustainability.

### **Increasing Energy Efficiency:**

Turkey, like with many other countries, is also making an effort to increase its energy efficiency. An economy's energy efficiency is usually measured with energy intensity, which is defined as the amount of energy used to produce a dollar's worth of gross domestic product ("GDP").

According to General Directorate of Electrical Power Resources Survey and Development Administration ("EIE"), the energy intensity of Turkey is 1.9 times that of the OECD countries. For space heating, Turkey uses more than twice the amount of energy used by the EU countries per unit floor area. This high level of energy waste indicates a great potential for energy savings. In May 2007, Turkish Parliament enacted "Energy Efficiency Law" in order to decrease the burden of energy on the economy and to protect the environment. EIE estimates that 30% savings can be realized in industrial energy consumption and that considerable economization can be achieved in transportation and services sectors.

Since the publishing of this report Turkey has undertaken some key changes which include: Decreasing technical loss and illegal usage of electricity, increasing biodiesel utilization in transportation fuel so as to reach EU target of 5% by 2010, increasing insulation standards in construction, promoting common usage of energy saving bulbs, and increasing public awareness. I guess you could say that

### **Security of Energy Supply:**

It is obvious that the world dynamics has changed fundamentally in energy terms; Turkey is just another country that needs energy and is doing its best to harvest a variety of ways to meet its needs.

If we consider how the demand in China has exploded it seems clear that this will continue as well for many rapidly developing regions. Although presently hovering around \$61 a barrel we have seen how in the past year oil prices have topped \$150 a barrel. International energy agencies estimate the price of crude at \$200 per barrel by 2030. The message is clear, which is that prices are on an upward trend. This ceiling-less oil market has some serious consequences for security and there is also the issue of source diversification as well. There are many ways in which Turkey is trying to become a key player in securing energy for both itself and its European neighbors. I would like to highlight some of the projects the Turkey is involved in and which once again demonstrate the importance we are showing toward energy security.

I would posit that Turkey, acts as a “bridge” between petroleum and natural gas rich countries and the EU. The Nabucco natural gas pipeline project transports natural gas from Turkey to Austria, via Bulgaria, Romania, and Hungary. This will not only increase natural gas supply security of Europe, but will also enable Europe to decrease its dependency on Russia by diversifying the supply sources. It is also expected that the project will positively influence the relations between Turkey and the EU. With this project Turkey is trying to increase its cooperation in energy delivery projects.

Secondly, the BTC petroleum pipeline, which was put into commercial operation in 2006, is another pipeline project where Turkey can show its commitment to both the security and delivery of energy. The pipeline’s annual capacity is 50 million tons. Turkey has a strategic plan to establish Ceyhan, the center of the Turkish operations, as a harbor, a regional petroleum hub. When we consider the amount of financial resources needed to construct such large projects and then look at Turkey’s GDP it is clear how Turkey is making every effort and sometimes sacrifice to develop itself and its energy.

Using natural gas in place of petroleum is an initiative that Turkey is taking very seriously. Because it burns cleaner and has less of an environmental impact Turkey has decided to encourage investment in this sector. With respect to source diversification, in 2007, natural gas fired power plants generated 48% of the total generation of Turkey and total natural gas consumption was realized approximately as 35 billion cm. Yet even though Turkey used a lot of its own resources, it still had to procure 23 billion cm of natural gas from Russia in 2007. One major reason for this procurement is that Turkey’s natural gas storage capacity is very limited. This is one of the key motivators behind the development of the underground natural gas storage facility of Tuz Gölü.

## **Conclusions**

While it is clear that Turkey is not going to solve the global energy issue itself it is a country that is dedicated to working with others to generate solutions. As a country with severely limited oil resources it is clear that Turkey needs to become a model country in the development and production of other energy sources such as wind, solar or bio-fuels which demonstrate our dedication to sustainable sources of energy. Additionally, Turkey is setting another goal to help become an energy delivery corridor to Europe. This will not only help to ensure its own energy security but also allow Europe to find additional sources of energy. In closing I would like to mention one last quote by Henrik Tikkanen “Because we don’t think about future generations, they will never forget us.” Although I find this quote a bit unsettling, I know that this could be the future of our planet if we do not make some changes. I challenge each one of you to make your best effort everyday and do your part to help with the sustainability and security of energy for both our and our children’s future. Thank you.