Good afternoon, and thanks to the Energy Dialogue for your kind invitation to speak today.

Europe is at the forefront of a global transition to a cleaner energy economy. At the same time globally energy security remains a key priority, and both sustainability and energy security are challenges that are global in nature.

The interconnected and international natures of oil and gas markets, gas and electricity grids, coal trading, advanced technology development, and carbon emissions, are tying us together as never before. And as economic prosperity spreads to billions who once knew poverty, the challenges we face – while still unique – become increasingly similar. So while cooperation is increasingly necessary to meet the interconnected challenges of energy security and sustainability, it is also increasingly feasible.

I would like to take my time today to address some of the issues regarding Europe’s energy development going forward, and to focus on efficiency, the “hidden fuel” and the highlight of our forthcoming edition of the WEO, to be released on 12 November.

But the overarching theme of my message today will be the cooperation that we need to get there, in terms of international energy governance on the European and global level... but also with the private sector and all the stakeholders.
Attention in many European capitals is unavoidably on some short-term economic uncertainties. But I would like to start from a different angle, with one thing that we can be sure about: economic growth and rising population will push energy demand higher.

Looking at the state of the energy world over the next two and a half decades, we see global energy demand rising by over one-third between 2010 and 2035.

The direction and orientation of energy markets will be increasingly determined by countries outside the OECD – and outside the EU. Emerging economies account for more than 90% of the growth in global energy demand.

China and India lead the way, representing half of the growth in demand. China alone represents almost one-third of the total growth, even though by 2035 its per-capita energy consumption will still be less than half the level for the United States.
So which fuels meet this demand?

Looking forward, the age of fossil fuels is far from over, but there are some important shifts taking place in the overall energy mix, with renewables and natural gas set to experience the largest growth globally.

Output from renewable energy sources rises by 85%, mainly wind and hydropower for electricity generation.

Demand for natural gas rises by 45% and it is the only fossil fuel to increase its share of the energy mix.

The growth in oil use comes entirely from the transport sector in non-OECD countries, where vehicle ownership grows dramatically. We expect that, by 2020, more cars are built and sold in non-OECD countries than in the OECD – making fuel efficiency and other transportation policies in these non-OECD countries the key to global oil demand.
But Europe’s importance in global oil trade does not diminish. By 2015, oil imports to the European Union are set to overtake those of the United States, currently the world’s largest oil importer. It is then surpassed by China in 2020.

These patterns of global trade imply a geographical and political shift in concerns about the cost of imports and supply security, away from Washington towards Brussels and then Beijing and New Delhi.

At the IEA, oil security is our founding mission. That has always meant close coordination and communication with oil producers. The Producer-Consumer Dialogue, conducted in close cooperation with the International Energy Forum, is the main vehicle for that. But particularly in times of supply crisis, OPEC and other oil producers are vital partners to making sure the oil flows.

And even in the event of an acute crisis which might necessitate activation of the IEA’s emergency measures – such as a coordinated stock release – involving the greatest number of stakeholders among members and non-members is central. That includes with emerging economies. In preparation, IEA partner countries such as China, India, ASEAN members, and others take part in our emergency exercises – including tailored exercises in-country at the request of individual nations.

Increasingly, oil security concerns are going global, and so should our approach to them.
But security is more than about just oil.

On a global level, factors both on the supply and demand sides point to a bright future, even a golden age, for gas.

But in the near term low American prices and high Asian LNG prices have been diverging from European prices.

The rosy global outlook for gas is not necessarily reflected in Europe today.

We do see some possibilities for unconventional gas production in Europe – Poland is the best example. But looking at Europe as a whole, we do not see this having a transformative effect.

Carbon prices driven by the European Emissions Trading Scheme are disappointingly low. They fell through 2011 and 2012, and stand at less than 10 EUR per tonne of CO2 today – giving them a negligible impact on investment decisions.

At the same time European coal prices have come down from their highs at the end of 2010, and electricity prices have fallen.

A significant gap has therefore opened in Europe, leaving gas unprofitable for many generators and turbines running well below capacity, and encouraging coal consumption.

We can see this in my country, the Netherlands, where many gas turbines are running at minimum operating levels.

On the other end, gas is also competing with renewables which see falling capital costs and continued subsidies.

The verdict: a Golden Age of Gas is unlikely to emerge in Europe any time soon.
Which brings me on to Russia. We all know that European gas import dramas have played out most publicly with regard to Russia in recent years – but we see Russia also as a strategic partner, and the key here is also cooperation.... Both with Russia and also internally in Europe.

Russia will continue to be an important supplier. But given the hype in the press over recent years, gas trade may not be so overwhelming as it first appears.

The Russian Arctic Shtokman project has been halted indefinitely as the North American LNG market has dried up. At the same time, investment decisions in the Far East are being held off, despite their close proximity to China and Asian markets.

And in fact, in terms of volume, gas imports from Russia are not overwhelming compared to other fuels or sources.

Why then has gas proven to be such a thorny issue politically between the EU and Russia? The problem lies with opaque and inefficient markets. The development of functional and efficient markets can depoliticize the gas relationship. And the oil-indexed pricing structure of many gas contracts is precisely what is keeping gas prices high in Europe – prices which are cannibalizing European demand.

As such, an efficient EU gas market can deliver the options that Europe needs, but it is in Russia’s strategic interest as well.
In the electricity sector, Europe is the leader in green technologies, followed by China, and we expect this to continue in the future. The European Union and China make the largest contributions to a shift towards lower-carbon sources of power generation: at global level, generation from renewables – excluding hydropower – increases from 3% of the total in 2009 to over 15% in 2035.

For many regions and technologies, energy derived from renewable sources is, and is projected to remain for decades to come, more costly than energy from fossil fuels. Well-designed subsidies for renewables will be vital.

In our analysis, the required support for each unit of renewable energy is set to decline over time as cost reductions are achieved and end-user energy prices rise. But, the global cost of subsidies to biofuels and renewable electricity generation is set to expand with their increasing supply, from $66 billion in 2010 to $250 billion in 2035. In the European Union, subsidies to renewables peak in the 2020s at just over $50 billion dollars in today’s money as wind power becomes increasingly competitive.

That process is accelerating even today.
However there is more to large-scale penetration of renewables than just erecting wind turbines and solar panels... There will be changes across the entire value chain of the electricity system. We will need to reconfigure grids to scale up interconnections between new production sites and the demand centres. Infrastructure will be an important driver of competition in markets.

Better and smarter grid interconnectivity will be required to provide greater flexibility to cope with the specific nature of variable renewables.

But some fossil fuel generation will still be needed as part of a low-carbon system, and these investments need to be economically viable as well... even as these fossil plants run for fewer and less predictable hours.

These new demands for flexible and integrated electricity and gas infrastructure point to the advantages of a more European approach to transmission and distribution networks, for both electricity and gas. Better interconnections will help to foster a true single market.

Thanks to its endowment of hydro energy, Austria may not see such penetration of variable renewables.

But the changing mix of its neighbours will imply a new role for Austria’s hydro and gas-fired power capacity, particularly to serve as baseload. And that will require investments in a flexible and interconnected power system in the region.
But while energy infrastructure is important, let us remember that the most secure and least costly energy is that which we do not consume. And energy efficiency is the biggest contributor to cost-effective decarbonisation.

Energy efficiency has a particularly critical role in the short term – in our modeling it provides 68% of emissions reductions in Europe to 2020.

But globally, energy efficiency has been going in the wrong direction.

This is a lost opportunity. Our economies are wasting money.

Improving energy efficiency is not always easy – good governance capacities are needed to support implementation of energy efficiency strategies, policies and programmes. Perhaps the most significant recent policy development is taking place at the EU level. In June 2012 the European Parliament and Council, supported by the Commission, agreed to a provisional deal on a new EU Energy Efficiency Directive.

But institutional arrangements, and particularly public-private sector co-operation and stakeholder engagement, are also key. Industry is one of the major sectors where efficiency gains can happen, and so I am encouraged when private sector actors are engaged.
Indeed, cooperation with industry across all elements of energy policy making is essential. Over the coming decades, it is the private sector which will be overwhelmingly responsible for providing the trillions of dollars of investments needed to meet the increasing demands for fossil fuels as well as cleaner energy. Until 2035, over $38 trillion in investments will be required to provide the necessary energy supply, or about $1.5 trillion per year.

But close cooperation with industry is necessary outside of the energy sector as well, since it is there that the efficiency gains and modern energy applications will happen. Investments will be necessary not only to produce more energy, but also to move to a low carbon energy economy. In Europe we calculate the scale of necessary additional investments to move to a low carbon trajectory at $6 trillion to 2050, or an additional $150 billion per year on average – 10% extra.

The environment in which those investments are made must be predictable, consistent, and conducive to a healthy and profitable business case. And it must be formulated with the buy-in of private sector stakeholders.
Today I have talked about the many kinds of cooperation which are necessary to achieve our sustainability and security goals. From a policy perspective, that cooperation globally requires effective global energy governance. Over the decades, various international institutions and frameworks have cropped up to deal with some or other of these aspects, among different groups of countries. The result is a complex web, and at times the goals or activities of those institutions may seem to overlap or to compete.

In the longer term, this simply will not do. With OPEC, with IRENA, with UN-Energy, with the IEF, with others in the OECD family, and with regional fora - my goal is to find areas of practical, targeted cooperation where we can leverage the skills and membership pools of one another.

So let me leave you with three thoughts on the focus of that cooperation – what we have in common, principles we can share. These apply to global institutions, but also to our engagement with Partners, with producers, and with the private sector.

First, encouraging investment... too often, impediments to investment are not financial, not technical. They are regulatory impediments - policies which are overly restrictive, or unsteady. All our institutions and stakeholders should work to encourage flexible and stable regulatory frameworks which enable the money to flow where it should.

Second, governance must be underpinned by markets that are transparent, open, and benefit from robust legal frameworks. That is the case in carbon markets, in gas markets and dealings with Russia, when it comes to support for renewables, and with regard to investments across all fuel chains.

Third, global economic shifts mean that energy governance must evolve as well. The IEA places great importance on our engagement with Partner countries, and all of our energy governance frameworks should reflect that importance.

Let me take this opportunity to thank the Energy Dialogue for this opportunity to speak. And I look forward to meeting with all of you again soon.

Thank you.