

XI KAZENERGY EURASIAN FORUM: Securing the future of energy

Opening Address

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Good morning your Excellencies, Ladies and Gentlemen and thank you to our hosts of the KazEnergy Eurasian Forum.

During the last three months Astana has been the nexus of the energy world and has showcased the best approaches and solutions for Future Energy. The EXPO 2017 couldn't have chosen a more important topic to focus on. Together with food and water, they form the basic building blocks for sustainable development.

Sustainable development of the world requires access to safe, affordable, reliable, sustainable and modern energy sources.

Long before the term "climate change" was even introduced, the World Petroleum Council has been dedicated to promoting the sustainable management and use of the world's petroleum resources for the benefit for all. Since 1933 our mandate has been to provide a neutral platform to bring together the best minds in the industry with key decision makers to discuss the best way forward for all involved in oil and gas.

We face a very different world today, but our original mandate still applies.

In the last half-century, the global population has more than doubled.

Life expectancy has risen from 50 to 70.

GDP is more than 30 times what it was.

And extreme poverty has been halved.

It is an extraordinary transformation. And it is one in which energy has been vital, more than trebling in consumption since the 1960s.

And this trend will continue. Over the next quarter of century, we are going to see:

- A world economy that will double again in size.
- Billions of people moving out of poverty as living standards rise
- Resulting in another 2 billion energy consumers.

We will need all energy sources in order to satisfy this rising demand and continue to support economic development while mitigating the impact of climate change. The good news is that we are using energy more efficiently: while we expect the world economy will double in the next 20 years, we expect energy consumption to grow by just 30%. Energy-related emissions have been essentially flat for the last three years, after growing around 2.5% per year in the previous decade.

However, we still have a long way to go to meet the path set out in the Paris Agreement, which aims to limit the global temperature rise to 2 degrees Celsius.

At WPC, we recognise these challenges and selected the theme of building “Bridges to our Energy Future” for our 22nd World Petroleum Congress in Istanbul this summer. Nearly 5000 industry leaders and experts gathered there and we heard from some of the key decision makers on their views of the future developments in the energy industry.

They all agreed on one point: while the energy transition is certainly under way it will take many decades to play out.

Although renewables are the fastest growing fuel, at a remarkable 12% a year - there is still a long way to go, as they are starting from a low base and only represent around 3% of today’s energy supply.

Even under the most aggressive 2 degrees climate change scenario, the International Energy Agency still does not see the share of renewables reaching more than 10% of the total energy mix by 2035 - although that could increase with different policies and technology breakthroughs.

We will still require hydrocarbons to develop our industries as some sectors of the economy are just not able to achieve zero carbon yet. Although the industrial sector emits as much CO₂ as the power sector for example, it cannot just switch to electricity. There are no easy replacements yet for hydrocarbons that can provide the intensity of heat required for heavy industry like steel, cement and many chemical processes.

The same is true for transport. In several parts of the world we are beginning to see battery electric cars starting to gain consumer acceptance. This has to happen as part of society’s push to decarbonise. But the weight and capacity limits of batteries still mean there is no immediate zero-carbon solution for air travel, for shipping and for heavy freight. So the world will also need petrol, as well as liquefied natural gas as a transport fuel. While electric vehicles are making progress for example, the reality on the ground is that they represent less than two tenths of a percent of the 1.2 billion total vehicle fleet.

In power generation, wind and solar are contributing more and more to the global energy system which will be essential if the world is to decarbonise. But the intermittency of renewables – both day by day and also season by season – means there will be a long-term role for natural gas power generation. New energy storage technologies will, in time, help the intermittency issue, but they do not exist yet. Until then the task of reducing emissions cannot depend on renewables alone.

There are still 1.3 billion people without access to electricity. About 3 billion rely on primitive, unsafe cooking fuels that cause 4 million deaths a year. The challenge we face is getting clean and affordable energy to those who need it most.

The WPC has partnered with the OPEC Fund for International Development to set up a joint industry initiative to address energy poverty and provide solutions for access to modern energy services for all. The Oil & Gas Industry Energy Access Platform (EAP) showcases practical examples of how the industry can contribute to the achievement of SDG7 on universal energy access through its leadership, technology and much relevant business experience.

This will all require massive investments. With the lower oil price and the downturn in the market, investment in upstream oil and gas, fell by 44% between 2014 and 2016 despite major cost cutting efforts. It is estimated that about \$1 trillion in investments have already been lost since the current downturn began.

So, going forward, how will the oil and gas industry be able to continue to provide the safe, affordable, reliable, and sustainable energy required by the world's growing population while mitigating its climate impacts?

Firstly, it requires open and competitive markets.

This includes a robust infrastructure, innovation, liberal capital markets, legal clarity, and of course people. Only in the right fiscal and regulatory environment can large scale, capital intensive energy projects succeed.

Secondly, natural gas will provide a vital lower carbon energy source. It is abundant and affordable. As it produces only half of the carbon of coal when burned for power, it offers a means to lower emissions quickly while renewables achieve scale – as well as a source of back-up baseload power to address the intermittency of renewables.

For gas to fully play its role, though, it is important to minimise methane emissions in the production process. WPC is working with the UN and the World Bank to sign up key players to the Global Gas Flaring Reduction Partnership (GGFR). The Oil and Gas Climate Initiative, set up by the industry to help tackle climate change, has also made reducing such emissions a priority in its billion-dollar programme of investment in low emission technologies, including Carbon Capture, Utilization, and Storage technologies which have the potential to turn traditional fuels into zero-emission fuels.

Thirdly, we must leverage the power of innovation and technology to make the use of oil and gas cleaner and minimize emissions.

In our industry, innovation is a game-changer. Advanced technologies are key to resolving the paradox of providing more energy while curbing emissions. We have seen remarkable falls in the costs of renewable technology. We have seen technology help to drive the shale revolution. And digital technology is now helping us use energy more efficiently in oil and gas production, with super-fast processing, data lakes, real-time feeds and predictive software to maximise production and minimise downtime.

The final factor is policy.

The Paris Agreement created real momentum but more action is needed in terms of policy encouragement for emissions reduction such as carbon pricing, which brings the power of the market into emissions reduction, making energy efficiency more attractive and lower carbon energy sources more competitive.

There is hope. Despite the massive increases in fossil fuel production in the last ten years, in the US, CO2 emissions from energy have fallen 11% in a decade and Europe, they have fallen 25% since 1979.

So, it is possible to both meet energy demand and address climate change.

It takes leadership, commitment and a long-term perspective to secure the future of energy.

Thank you for your attention!