

***WORLD ENERGY OUTLOOK 2014 special report: World Energy
Investment Outlook***

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Opening remarks

Ladies and Gentlemen, welcome and thank you for joining us today for the launch of this special report: the *World Energy Investment Outlook*.

The presentation of the annual *World Energy Outlook* in November has already become a regular fixture in the energy calendar – I invite you to note 12 November in your diaries, the date when we shall present our full, updated *Outlook* later this year. We will also be launching a special regional focus on the energy outlook for Africa, here in London, on 13 October.

But – as part of the expanding *World Energy Outlook* series – this is the fourth year in a row that we meet also in the spring to present additional analysis, this time on investment.

Why put the spotlight on investment? The answer is simple: because many of our hopes and our worries about the future of the global energy system boil down to questions about investment. Will policies and market conditions create enough investment opportunities, in the regions and sectors where they are needed? Will financing be available so that investors can take up these opportunities? And will policy makers succeed in steering investment towards a cleaner, more secure energy system – or are we locking in technologies and patterns of consumption that store up trouble for the future?

The total requirement for energy investment emerging from this analysis is huge: more than USD 40 trillion in energy supply over the period to 2035 in our main scenario, alongside an additional USD 8 trillion of investment in energy efficiency. Of the 40 trillion in energy supply, more than half is required just to keep the energy system producing at today's levels, that is, to compensate for declining output from existing oil and gas fields, to replace power plants that are retired, or equipment that reaches the end of its operational life. In geographical terms, nearly two-thirds of the energy-supply investment takes place in emerging economies, although ageing infrastructure and climate policies means a large investment requirement also across the OECD.

For most of us, dealing in trillions of dollar is not an easy task – sums of money are comprehensible only on a smaller scale. So, alongside the global numbers, we narrow our focus in the report on some critical components of the global energy system, where the investments required are measured “only” in billions but the effects are nonetheless directly felt by consumers.

An example is LNG, where there are expectations in some places that new supplies from the United States can transform gas markets by exporting not just US gas, but also by exporting US natural gas prices that are a fraction of those in Europe or in Asian markets. LNG – from the US and elsewhere – indeed plays a very important role in our outlook for gas markets, but it is worth remembering that moving gas over long distances is expensive – up to ten times higher than moving an equivalent amount of coal or oil around the world. Understanding the scale of this investment in new liquefaction facilities and LNG tankers, and what this means for the costs of delivering LNG, should help to provide a realistic assessment of the price at which future LNG will be available.

We also focus on areas where we feel that there is a risk of investment falling short of what is required. We look at the Middle East, where increased investment remains absolutely critical to the longer-term outlook for oil markets, once the current surge in non-OPEC production starts to plateau in the 2020s; if investment does not pick up as needed, this will mean much tighter and more volatile oil markets in the 2020s. We look at India, where electricity production has doubled since 2000 but still lags behind demand, and where the incentives for investment are dimmed by low end-user tariffs and high losses in the transmission and distribution network. We look in detail at the current problems in Europe, where the design of power markets raises serious doubts about the business case for new investment in thermal capacity. Alongside the continued expansion of renewables, the baseload and balancing provided by this fossil-fuel generation is essential to maintain the reliability of Europe's electricity system.

But even if all the investment projected in our main *WEO* scenario comes forward on time, this would not mean that the problems of the energy sector are solved. Today's energy policies and policy ambitions are not adequate to tackle some of the most critical challenges facing the energy sector. Almost 1 billion people are left without access to electricity in this scenario in 2035 – the investment required to close this failure in the global energy system does not materialise; this is a topic to which we will return in detail in the *WEO* analysis of Africa later this year.

In addition, today's policies and market signals are simply not strong enough to meet the world's climate change target. Getting the world on to a path consistent with a 2 degree C climate objective is a steep hill to climb: at just under USD 40 trillion, the amount needed for energy supply is quite similar to our main scenario but the

composition is quite different, and there is a much larger requirement of USD 14 trillion for investment in energy efficiency. The switch in investment towards low-carbon sources and energy efficiency brings new types of investors into the picture in a much larger way: municipalities, small businesses, households. This will require innovative models both for investment and for financing.

What lessons can we draw? Governments are ever more active in shaping energy markets and investment decisions, motivated by a range of policy concerns and by increasing public awareness on a range of energy and environmental issues. But a key message is that investment and finance are very responsive to the quality of this policy-making. Clear and credible signals from policy makers lower risks and inspire confidence. By contrast, where there is a record of policy incoherence, confusing signals or stop-and-go policy cycles, investors end up paying more for their finance, consumers pay more for their energy, and some projects that are needed simply won't go ahead. We should be very wary of the risk of shortfalls in investment and the knock-on effects on regional or global energy security, as well as risk that investments are misdirected because environmental impacts are not being properly reflected in prices.

With these thoughts – and without further delay – I would like to turn the floor over to my Chief Economist, Dr. Fatih Birol, who directed the report, to present its detailed findings.

Thank you.