

In the Foreword to *World Energy Outlook-2015*, I challenged the negotiators at COP21 in Paris to take sober stock of the way that the energy sector was shaping up. Pointing to the unsustainable trends in our central scenario, Paris presented the opportunity to put forward a different vision of our energy future – a world in which energy needs are fully met without dangerously overheating the planet and in a secure and affordable way.

The negotiators had huge challenges to face. But they have done us proud. And sufficient ratifications now mean that the Paris Agreement has come into effect.

A new sense of direction pervades the international climate and energy community, not least the IEA, which is now reinforcing a role as the global “clean energy hub”. The particular commitments made in Paris are national, but the determination to realise change is shared. The outlook for global energy changes in consequence.

Our new projections reflect this. The Nationally Determined Contributions, the climate pledges tabled in Paris, are now at the heart of our New Policies Scenario. The prospective changes to the global energy scene are not yet enough to deliver the necessary containment of CO₂ emissions. But we are making progress. No one believes that COP21 was the end of the story. But it is, perhaps, the “end of the beginning”, the moment when the world put in place a suitable framework for concerted, collective endeavour.

Renewable energy plays an ever-increasing role in energy supply, both today and in the future. In 2015, renewables, for the first time, accounted for more than half of all new generating electricity capacity globally and we spell out the future prospects in this new edition of the *WEO*. To contribute to the realisation of the fuller role of renewables, we devote three chapters to this subject this year, probing, as part of this, their actual and prospective competitiveness against other forms of energy supply. We also evaluate the constraints on the share of electricity demand that renewables can supply and how they can be tackled.

Some colleagues and friends in the renewables industry have at times criticised the projections of future renewables energy supply in our main scenario as too conservative. They may indeed turn out to be too conservative; I sincerely hope that they do. But they rest squarely on the foundation of officially declared policy intentions. More can and should be done, as we demonstrate clearly in our other scenarios that require a more rapid pace of decarbonisation; but the underlying policies will have to change to make it happen. A clear-headed, rigorous assessment of what today’s policy intentions can deliver, in my view, is the best way to encourage the necessary changes.

The global energy transition is gaining momentum, but traditional energy security concerns have not slipped off the agenda. Fossil fuels have had a turbulent year. Lower oil prices persist. Gas output is buoyant, but prices are low. Swathes of the coal industry have sought bankruptcy protection. We see a solid place for oil and gas in energy supply for many years

to come and some recovery of fortunes by the next decade. But risks abound. A shortfall of new projects – following two years of declines in upstream spending – would lead to a period of market volatility. There is also the possibility that a surfeit of investment – in the event of a strengthened commitment to climate policies – could lead to some projects and assets becoming stranded. We examine the prospects in both of these cases.

Future constraints do not all lie within the energy industry. Energy production needs water; and water supply needs energy. We examine the interactions and risks.

As usual, the WEO team, led now by Laura Cozzi and Tim Gould, has done an excellent job of assembling data, interpreting it, building projections and drawing lessons from them. I thank them and the many friends around the world who have contributed so much to this latest *World Energy Outlook*.

Dr. Fatih Birol
Executive Director
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1. *Mexico Energy Outlook: World Energy Outlook Special Report* was launched in Mexico City on 26 October 2016. It is available to download at: www.worldenergyoutlook.org/mexico.

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- Renewables Workshop, Paris, 29 April 2016.

Further details on these events are at: www.worldenergyoutlook.org/aboutweo/workshops and www.iea.org/ugforum.

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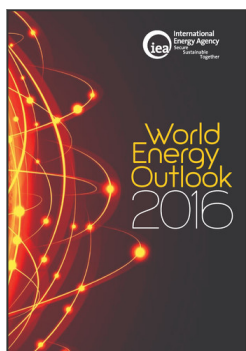
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