EnerFuture Scenarios

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ENER-BLUE

The Ener-Blue scenario provides an outlook of the energy system up to 2040 based on the **central assumption that a global agreement is reached at the COP21**. Sustained growth of China and other emerging countries is a powerful driver of global energy demand, but confirmed "**INDCs**"* play a key role in controlling the pace of growth of energy demand at the horizon 2030.

After the 2015 turmoil, oil prices rapidly grow and recover their 2014 levels around 2025. The future fuel mix remains dominated by fossil fuels, but INDCs planned policies regarding climate mitigation, energy efficiency and renewable energy sources lead to a **diversification** towards other sources of energy. Among others, the European Union successfully achieves the triple objective of its climate and energy package while China and India expand their renewables capacities to achieve their renewables targets.

Within this international context of climate coordinated policies, **CO2 emissions growth slows down**. However the efforts defined in INDCs are not ambitious enough to limit the increase of the average global temperature to 2°C in 2050, but these efforts are compatible with a **3-4°C objective**.

ENER-GREEN

Ener-Green explores the implications of more stringent energy and climate policies to limit the global temperature increase at around **2°C by the end of the century**.

This scenario shows a clear transition from the current energy system towards a long-term global **decarbonisation**, with substantial efforts on energy efficiency, initiatives to phase out fossil fuel subsidies and a real emergence of renewable technologies. This is achieved through ambitious policies both at the national and international level and through strict carbon constraints. Deployment of low-carbon technologies plays a key role, supported by significant R&D efforts to reduce their cost and improve their performance.

In the **power sector**, renewables become the main source of electricity generation around 2040. The scenario also includes a growing adoption of cleaner coal technologies and the wide-scale deployment of Carbon Capture and Storage (CCS). Nuclear turns to be an attractive option.

Talks at the COP21 are successful and governments **commit to returning to the negotiating table** and revise their emissions goal every five years. This new "green deal" lead to a factor of 2 reduction of world emissions by 2050.

ENER-BROWN

Ener-Brown describes a world with durably **low fossil fuel energy prices**, affecting the entire energy system over a long period.

OPEC outputs continue to rise to maintain its market share while the unconventional oil and gas boom in North America carries on, as technological improvements are projected to continue. **Those learning effects** in the exploitation and production of **unconventional oil and gas resources** are expected to be deployed more widely abroad (China, Argentina…).

With less tensions, **oil and gas markets are expected to remain weak**: prices will slowly recover from the 2014 collapse but will not reach the last decade highs during the forecast period.

Confirmed energy commitments in some regions as well as technological innovation foster a significant development of low-energy intensive processes and technologies. **Renewables achieve a substantial deployment but affordable fossil fuels still remain a competitive and attractive source of energy.**

Without a global agreement, non-coordinated policies result in **soaring CO2 emissions** across the world: the global temperature increase is expected to reach around **+6 °C** by the end of the century.

If you have any questions or need further information, please contact: assistance@enerdata.net