

# 2014: stabilization of the world energy consumption and CO<sub>2</sub> emissions

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Enerdata publishes its annual analysis based on its 2014 data for the G-20 countries. Representing 80% of the global demand, the G-20 gave key trends in the evolution of global markets.

The year 2014 was historically surprising as global energy consumption stopped growing despite an economic growth in line with past trends, enabling a stabilization of CO<sub>2</sub> emissions.

- Can we assume that the economy is becoming more energy efficient and less carbon intensive?
- What are the structural factors and more cyclical phenomena that explain these results?
- What lessons can be drawn from the analysis of the energy mix?

### Here are the 10 key points of the 2014 energy trends...

#### **3.5% : 2014 economic growth**

The growth of the G-20 countries has remained close to that of previous years, which is still driven by the development of BRICS \* (+ 6%) and the USA's economic health (+ 2.4%).

The EU, Japan, Russia and Brazil on the other hand experienced a year of stagnation.

#### **+ 0.3%: near stagnation of energy consumption**

2014 is historic: despite economic growth, the G-20's energy consumption (10.8 Gtoe) remained almost at the same level as in 2013.

China contributes very strongly to this trend change: 30% of the G-20 and its consumption has stagnated for the first time in 19 years!

#### **-3 Pts: significant decline in energy intensity\*\***

Compared to an historical trend down of 1 to 1.5 pt/year, 2014 has shown a strong evolution. This comes largely from the performance from China and the EU. Other countries have not significantly changed.

In China the decrease is particularly due to industry energy efficiency improvements and the decreasing weight of the most energy-intensive activities (stabilization of steel and cement production).

In Europe, the 4pts drop is more cyclical and largely comes from the exceptional weather conditions (very hot winter).

#### **0: historical stabilization of CO<sub>2</sub> emissions**

As a direct consequence of the near stagnation of energy consumption, CO<sub>2</sub>-energy emissions\*\*\* (26 GtCO<sub>2</sub>) stopped growing - a first in 40 years!

The main reason is the decline in energy intensity of the global economy. There is no significant change in the overall energy mix in 2014.

#### **0: no change in the energy carbon factor**

In the long-term (15 years) as well as in the last few years, energy consumption maintains an almost constant carbon factor\*\*\*\*. The share of fossil fuels in the energy mix and their average emission level remain stable.

#### **- 50%: oil prices collapse**

A major event of the year, the sharp fall in oil prices after several years of stability was surprising by both its speed and scale. If the demand has not significantly changed (low growth driven by BRICS), production capacity increases and market rules change, which is influenced by the historic decision of OPEC to no longer play its role as a swing producer.

#### **The stabilization of global energy consumption is felt everywhere:**

##### **0: no growth in gas demand**

A surprise (the first stagnation since 2001, out of the crisis period) due to the weak energy demand, coal competition and the absence of a carbon price signal. In Europe this was caused primarily by climatic conditions.

The gas market share in the energy mix remained stable.

##### **-0.7%: decline in coal consumption driven by China**

Another surprise of 2014, this global decline mainly comes from China's historical decline in consumption due to the structural effects mentioned above for the industrial sector, plus a decline in the share of coal in electricity mix (high level of hydro power generation).

##### **+ 1.2%: lower growth in electricity consumption**

Moving away from 3-4% recorded on average since 2000, this performance is related to a decrease in the G7 countries (particularly from a sharp decline in Europe), but also slowing down in growth for the BRICS countries, where India alone maintains a high pace.

## **80 GW: record year for new solar PV and wind installed capacity in the G-20**

Investment in electricity production from renewable energy sources continues to expand geographically. After the EU, China is now drawing this growth.

The cumulative installed capacity in the G-20 countries now exceeds 500 GW, which remains low compared to the whole installed capacity yet shows a very steady growth.

\* BRICS = Brazil + Russia + India + China + South Africa

\*\* Energy intensity: ratio of energy consumption to gross domestic product

\*\*\* CO<sub>2</sub>-energy emissions from energy combustion

\*\*\*\* Carbon Factor: tonnes of CO<sub>2</sub> emitted per 1 toe of energy consumed

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