

BBGI CLEAN ENERGY 100 USD INDEX AND STRATEGY

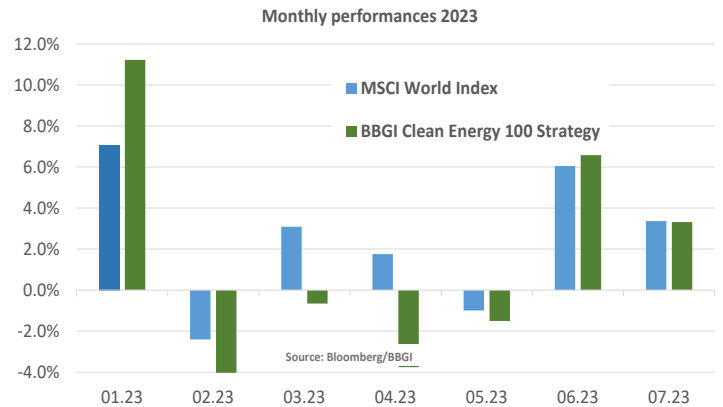
A BBGI Exclusivity since 1999

July 2023

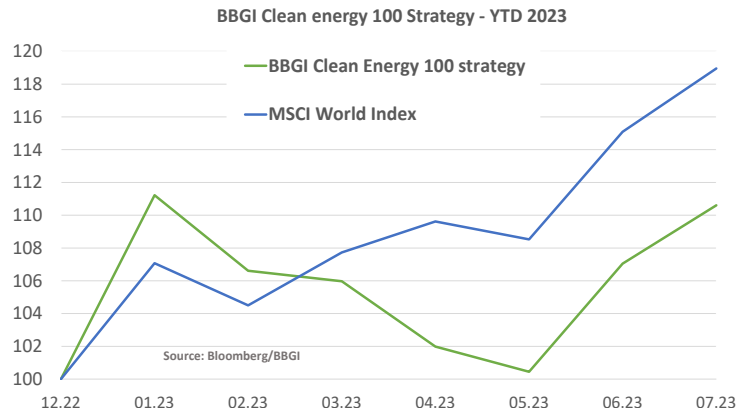
Annualized performance of
+11.08% since 1999

Positive trend continues for renewable energies

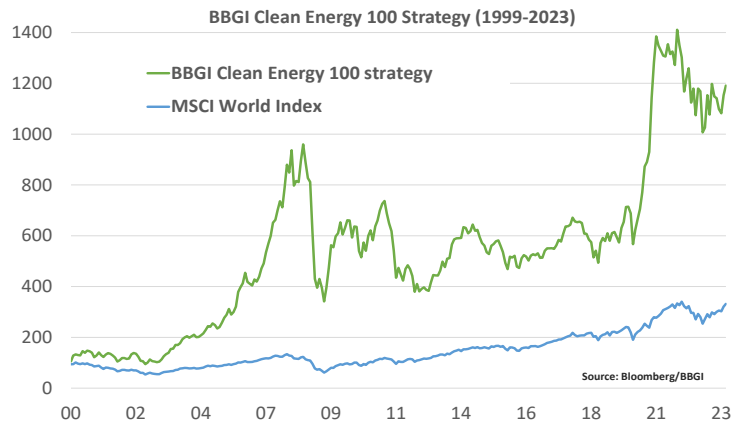
	July	YTD
BBGI Clean Energy 100 strategy:	+3.32%	+10.60%
BBGI Solar Sector:	-1.31%	+3.08%
BBGI Wind Sector:	+0.52%	+6.73%
BBGI Biofuel Sector:	+11.52%	+7.63%
BBGI Energy efficiency Sector:	+5.43%	+16.70%



The Clean Energy 100 strategy confirms last month's upward trend with a gain of +3.32% in July. In fact, three of the four sectors making up our strategy turned in positive performances in July. The energy efficiency segment gained +5.43% this month. The biofuel industry repeated its excellent performance of June (+14.16%) and surged again (+11.52%). Wind energy posted a timid gain of +0.52%, while the photovoltaic segment was the only one to move into negative territory this month (-1.31%). Falling steel costs combined with high turbine prices could lead to improved margins for our wind energy companies, although we note that the companies in our index may not see a full recovery until 2024 on average, as in the case of Vestas for example, whose pre-tax margin is set to rise from around 1.5% in 2023 to 8.5% next year. Conversely, polysilicon manufacturers could see their sales growth fall by -15% to -20%, as raw material prices have plummeted by over -50% this year. Indeed, we're already seeing a noticeable slimming of margins for producers like Wacker Chemie in Q2, down from 28% in Q2 22 to 18% in Q2 23.



By 2023, we see the addition of renewable energy power generation capacity soaring by +107 Gigawatts to over 404GW of total capacity, equivalent to the total power generation capacity of Germany and Spain combined. Unprecedented political and governmental support is one of the factors driving this dazzling development but concerns about energy sovereignty and the shock on the electricity market in 2022 are also positive factors. The replacement of fossil fuel-based electricity generation by renewable energies is well underway, but the electrification of the economy also brings its share of challenges, particularly in terms of rethinking the electricity grid and the market.



The systematic diversified strategy of the BBGI Clean Energy 100 Index has produced an annualized return of +11.08% since 1999 against +5.21% for the MSCI World

Special focus: Electricity market

Falling electricity consumption in advanced economies weighs on demand growth

Growth in global electricity demand is set to slow in 2023. Russia's and Ukraine's entry into the war has upset the course of the world's post-pandemic economic recovery. In particular, this conflict has plunged the world into an energy crisis and triggered a sudden return to inflation in many geographic zones, while slowing growth in others. Despite these disruptions and the sharp rise in electricity prices, demand growth remained positive in 2022 (+2.3%). The impacts of this crisis continued into 2023, and economic growth was more strongly affected, resulting in a fall in demand despite strong growth in electrification. In addition, electricity demand appears to be heterogeneous at global level. In fact, it is particularly within the European Union that we are seeing a downward trend. Europe expects to see a decline of -3% in 2023, after having already shrunk by -3% in 2022, despite record activity in the electric vehicle and heat pump sectors. These two consecutive declines now represent the biggest drop in demand in the history of the European Union. This drop is due in particular to the decline in activity in electricity-intensive industries, which have not recovered from the sharp slowdown in production in 2022 (-6% YoY). In fact, 2/3 of the drop in demand in 2022 is attributed to industrial activity, which is facing a very sharp rise in energy costs. This trend continued into 2023, despite a sharp fall in energy prices. This reduction in demand in developed countries contrasts sharply with that in developing countries, with Japan (-3%) and the USA (-2%) following in the West's footsteps, while demand in China and India is expected to be around +5.3% in 2023 and +5.1% in 2024 and +6.5% respectively.

Fossil-fired power generation in steep decline

The rapid installation of renewable energy generation capacity shows that renewables could overtake coal as a source of electricity by 2024. This should be supported by the fact that coal-fired power plants are expected to reduce their activity in 2023-2024, after having been favored during the energy crisis in 2022. Furthermore, the increased use of coal-fired power plants in Asia should be offset by the sharp reduction in Europe and the USA. If the scenario materializes, fossil-fired power generation will have fallen for the 4th time in the last 6 years. Normally, a reduction in the use of fossil fuels for electricity generation would only occur in specific cases, such as an energy shock or a major financial crisis, when demand was itself in sharp decline. Over the last 6 years, we have

observed that demand itself is increasing overall, and that for the first time, hydrocarbons are gradually being used less. These trends are exacerbated by the speed with which new renewable generation capacity is being installed, and they now appear to be structural.

Price trends demonstrate the need for greater flexibility

Since the energy shock of 2022, natural gas, coal and oil prices have come down from their record levels. Nevertheless, wholesale electricity prices remain relatively high in some geographical areas, compared with previous years. In Germany and France, electricity prices continued to fall during the 1st quarter of 2023 and are approaching 2021 levels (100E/MWh) but are still on average twice as high as in 2019 (40E/MWh). In the USA, the trend is less strong, despite increased consumption due to hot weather and the need for cooling, resulting in prices only +10% higher than in 2019.

At the same time, prices also moved below 0 for very short periods. In fact, the number of hours when the cost of electricity was negative in Europe doubled compared to the previous year (around 1% of the time). In Germany and the Netherlands, this phenomenon began in May and extended well into July, due to lower consumption and longer, stronger sunshine. Negative electricity prices occur when generation greatly exceeds demand. Renewable energies that produce electricity on a subsidy basis rather than at market prices increase this phenomenon, while the lack of possibility of exporting the surplus due to poor grid connectivity is also an aggravating factor. Geographical areas with the highest proportion of renewable energy in their energy mix provide the most blatant examples: in South Australia, for example, prices were negative 20% of the time in 2022. To achieve a balance and bring down wholesale electricity prices in the long term, it seems obvious that we need to act on demand flexibility through a change in grid usage regulations for consumers, as well as on increasing storage capacity to give producers arbitrage and price regulation possibilities. The development of renewable energy sources is reaching unprecedented levels, but the real challenge now is to radically restructure our electricity system to make the most of the technologies we now have.