

CB FONDER

Active | Ethical | Long-term

*"Higher demand means
lower prices"*

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Paradigm shift in the energy sector

We have since inception of our global environmental fund, CB Save Earth Fund, in 2008 invested in sectors that are driven by structural growth trends in the environmental area. Two of the sectors that we as fund managers identified as driven by structural growth – water, cleantech and renewable energy – turned out to be facing unexpected challenges. Especially the financial crisis hit companies operating in cleantech and renewable energy hard.

Today we argue that the time has come for companies active in some of these sectors. At the same time as the water sector – an industry that has performed well – is expected to continue on its stable growth path.

The energy market is moving from commodity based solutions to technology based solutions

The energy market has for a long period of time been based on commodities, meaning that a higher demand for energy has resulted in higher prices due to limited resources. Recently, this has started to change as renewable energy is becoming cheaper and cheaper and significantly more effective.

The energy market is currently in a paradigm shift where it goes from a market based on commodities to a market based on technology. This means that we leave an era characterised by “higher demand → higher prices” (limited commodities) and enter an era which will be characterised by “higher demand → lower prices” (unlimited technology). We have seen many technology shifts in the past and this will not differ from them: when the new technology gets a market share of around 10 percent, it will very soon be game over for the old technology which will be substituted by the new one (Figure 4). Figure 1 tells us that these technology shifts are becoming more and more rapid.

Adoption on the US market (as of 1997)

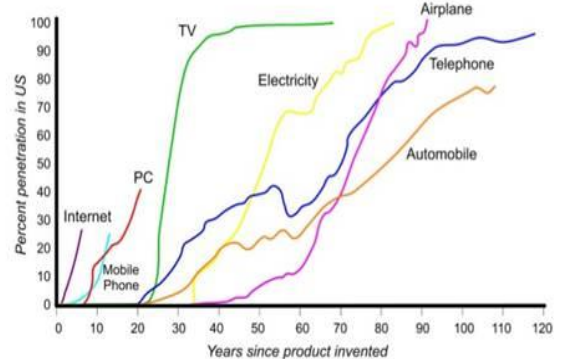


Figure 1. Adoption curves for different innovations. Technical shifts often occur according to the so called S-curve, which implies exponential rather than linear growth. Source: Forbes

Figure 2 illustrates that new technologies historically have substituted old; old technologies (fossil energy) become, relatively speaking, more expensive and less accessible, while new technologies become cheaper and more easily available. Hence, we have seen a “waterfall development” which renewable energy will follow going forward: the market share for renewable energy is growing quickly and substituting the old (fossil) energy production.

Eras of energy production: history indicates substitution

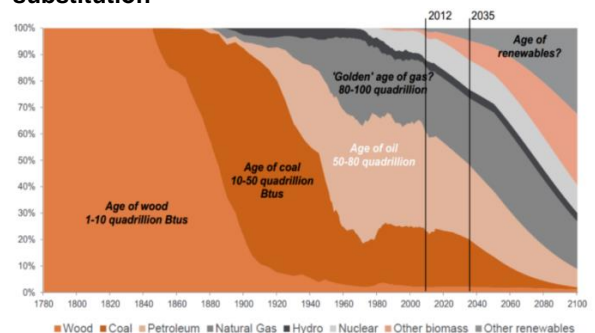


Figure 2. Eras of energy production: Renewable energy is still only a small part of the energy production mix, but history shows that technology shifts can happen fast. Source: IEA, EIA, Citi Research

As we move toward a market based on technology we expect costs to continue to fall, despite the fact that they have already fallen substantially. The price trend is comparable to that of computers. Already today wind and solar are the cheapest technologies in many countries; during the 2020s they will, we believe, become the cheapest in the majority of the world. Figure 3 illustrates the falling trend for the price of solar panels – a trend that will continue. Also batteries, which are important for the expansion of renewable energy, is following the same steep “learning curve”.

Price development for solar panels and batteries in relation to the cumulative production

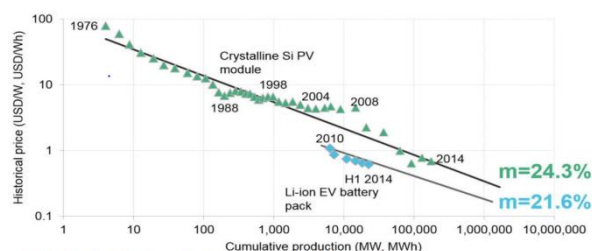


Figure 3. The price of solar panels and batteries; each time production doubles, prices fall around 20 percent (Swanson’s law). Source: Bloomberg New Energy Finance, Maycook, Battery University, MIT

The adoption curve and price development for color TV in the US are shown in Figure 4. The graph highlights the relation between the adoption of a technology and the price development. With the price development shown above, a similar progress for solar energy is very likely.

Adoption curve for color TV in the US

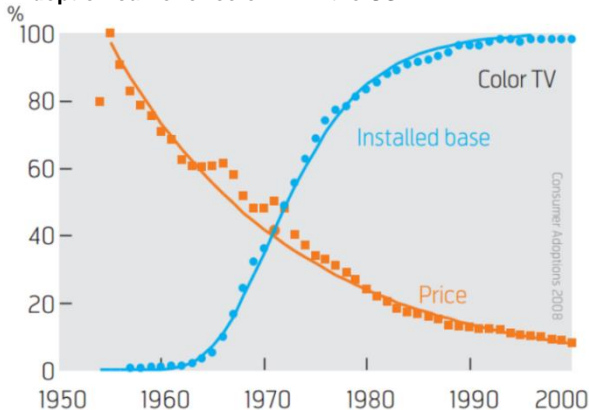


Figure 4. Adoption curve and price development for color TV in the US. The S-curve implies that when the new technology reaches 10% market share it’s very soon game over for the old technology: the new technology substitutes the old one. A similar progress for solar power is very likely. Source: Technology Futures, Inc.

Falling prices and profitability – is that possible?

The best example is renewable energy in general – which has evolved from an immature industry to a more mature one – and the Danish wind company Vestas in particular, which has gone from being on the brink of bankruptcy to being – in today’s market – something as extraordinary as an industrial company exposed to structural growth.

In the case of Vestas, it has – beyond the company specific actions – been due to the fact that industry growth has come down to a more manageable level of around 10 percent, meaning that Vestas have been able to decrease their investments and by that increase profitability. The company has also benefitted from a more mature sector, which has brought a large installed base and enabled highly profitable service. Around 25 percent of Vestas’ profit comes from service today, where they have a margin of around 18 percent. The company in total has a margin of >12 percent, which is in line with other high qualitative industrial companies – but with the exception that Vestas is exposed to structural growth and should therefore unlike many other industrial companies be able to continue on their profitable growth path.

The solar sector is still immature with a growth rate too high to be really interesting from an investor’s perspective. However, we are witnessing the first signs of a maturing industry through consolidation: in 2009 the five largest producers of solar panels had a combined market share of around 5 percent; in 2015 the same producers had almost 40 percent of the market. Consolidation is almost always good for profitability, which has also been the case in the solar sector: the five largest players have gone from a record low gross margin of around 5 percent in 2012 to a more decent margin of around 25 percent in 2015. Darwinism is starting to do its part: the weaker becomes weaker and leave the market while the stronger becomes stronger and more profitable.

Figure 5 shows that the growth in the wind sector has come to a more manageable level while the growth in the solar sector is still very high. The growth in the wind industry is also expected to stabilize around this level, which is a sign of maturity.

Analysis by CB Fonder

Yearly increase in global installed capacity

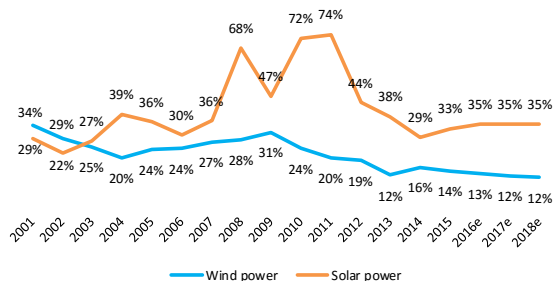


Figure 5. The graph shows the yearly percentage increase in installed wind and solar power capacity. Source: Kepler Cheuvreux, EPIA, SSE, ezysolare, CB Fonder

Structural growth

As an investor you do not necessarily want to invest in the companies with the highest growth, but those that offer a somewhat higher growth than the market average due to structural growth themes. The reason is that companies that are active within sectors with very high growth is forced to invest heavily in both CAPEX and OPEX, which means lower/negative cash flow and less value to the shareholders. It is also very common with share issues in this phase, which dilutes the shareholders. As shown in Figure 5, the wind sector has matured with a growth of around 10 percent per annum (around three times global GDP), which is why we believe that it is attractive to hold shares in this sector – despite that we have a much more positive view on solar power than wind power in the long run (Figure 3). The wind industry has matured, the growth rate stabilised and the companies in the sector are creating shareholder value; the opposite holds true for the solar industry.

This characteristic can be seen when we compare each sector’s excess return against the MSCI World Net index, which is illustrated in Figure 6. The water sector has since 2007 been a mature sector exposed to structural growth, which is demonstrated by the fact that the sector has performed better, or in line, with the world index each year. In 2007, cleantech and renewable energy was immature and showed very high growth rates, why the returns varied sharply compared to the world index – negatively for the most part. As both cleantech and renewable energy have matured they have come to perform more in line with the world index – and with the water sector (Figure 6).

Going forward, we believe that these three structural growth sectors will be able to year after year return somewhat better than the world index (which has already been proven by the water sector). In a world of zero or negative interest rates, we believe that it is becoming even more important to find pockets of growth to be able to get a decent return on invested capital; non-existent growth is the disease, low interest rates are the symptoms.

Relative performance for the environmental sectors against MSCI World Net

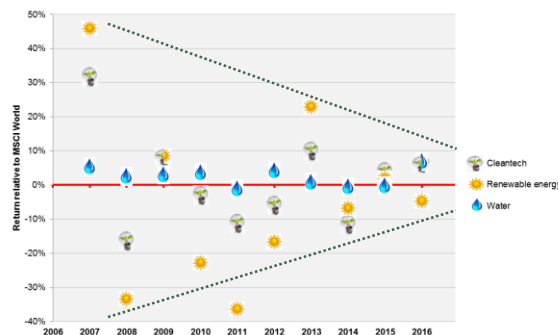


Figure 6. Each sector’s excess return against the MSCI World Net index, per calendar year. The differences in returns between the sectors have decreased over time and converged with the returns for the world index – a sign of maturity for the environmental sectors. Source: Reuters, Bloomberg, S&P, MSCI, CB Fonder

What are the risks?

Historically, sharp declines in the oil price have always been associated with significant underperformance in the environmental sectors in general and in the renewable energy sector in particular – but this time is somewhat different. Table 1 shows the four largest drawdowns in the oil price over the last decade and the relative performance of the environmental sectors against MSCI World Net during these periods. During each drawdown, cleantech and renewable energy have underperformed against the world index, but this time the sectors have seen its best relative performance, despite the drawdown in the oil price being the second largest. We see this as a sign of a more mature industry less affected by external shocks. At the same time, the water sector is relatively independent of the oil price.

Relative performance for the environmental sectors during drawdowns in the oil price

Table 1. The table shows the four largest drawdowns in the oil price (in USD) over the last decade, and the performance of each environmental sector relative to the MSCI World Net index during the same period. Source: MSCI, S&P, Reuters, Bloomberg, CB Fonder

Period	Oil price	Relative performance vs. MSCI World		
		Renewables	Cleantech	Water
1. 2008-07-03 - 2008-12-19	-77%	-30%	-16%	0%
2. 2011-04-29 - 2011-10-04	-34%	-30%	-13%	4%
3. 2012-02-24 - 2012-06-28	-29%	-17%	-9%	3%
4. 2014-06-20 - 2016-09-09	-57%	-17%	-2%	3%

Figure 7 shows that CB Save Earth Fund has performed substantially better than the MSCI World Energy index (oil/gas companies) since June 2014 – the start of the latest and second largest decline in the oil price. For an investor who seeks exposure against energy but at the same time wants a hedge against the significant headwinds fossil fuel companies will face, cleantech and renewable energy might be interesting options – but with the water sector as the solid base.

Performance for CB Save Earth Fund compared to MSCI World Energy index

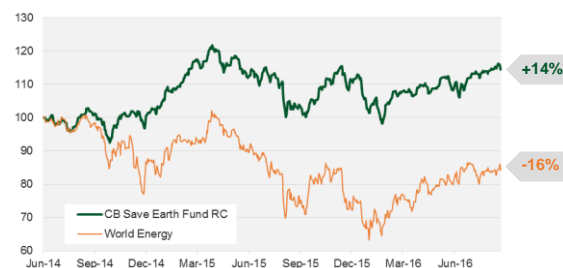


Figure 7. CB Save Earth Fund has performed substantially better than the MSCI World Energy index (oil/gas companies) since June 2014 – the start of the latest and second largest decline in the oil price during the latest 10 years. The fund can be seen as a hedge against continued weak performance from fossil fuel related companies due to low oil price and stranded assets. Source: MSCI, CB Fonder

Disclaimer:

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Potential investors in the Fund should inform themselves of the applicable laws and regulations of the countries of their citizenship, residence or domicile and which might be relevant to the subscription, purchase, holding, conversion and redemption of shares in the Fund.

Should you wish to obtain further information on the Fund, please consult our website, where the Prospectus, the latest available annual and semi-annual reports, and the Key Investor Information Document (KIID) of the Fund are provided.

The Fund owns shares in Vestas as of 2016-09-20.