

SUSTAINABLE GROWTH

Energy transition – the journey is what counts

The transition to a more sustainable energy future and the mitigation of climate change are the greatest challenges facing humanity in the 21st century. Energy transition is thus set to play a central role in investment decisions of the future, write Pictet's Denis Schmidli and Christoph Butz

Energy consumption is inherently tied to the development of human society and our economic wellbeing. In the past, increasing prosperity has inevitably been accompanied by a sharp rise in demand for energy.

However, we cannot simply extend western per-capita levels of energy consumption to the rest of the world: such a prospect would be not only impossible in technical terms but catastrophic for the earth's climate. The dilemma we face today is enormous. A continuous supply of energy forms the basis for sustained economic growth, but the vast majority of the energy sources used today are of fossil origin, which generate huge volumes of atmospheric emissions and potentially threaten the entire climate system – with incalculable consequences for humankind.

FOSSIL ENERGY SOURCES HAVE THEIR PLACE, BUT...

What will our energy mix of the

future look like and, more importantly, how will we go about getting there?

Despite the threat of climate change, fossil energy sources will undoubtedly continue to dominate the energy mix over the next 50 years. But the relative importance of certain energy sources will change. Coal – although in plentiful supply – is unlikely to see a global revival, given its particularly poor record in terms of CO₂ balance.

Meanwhile, oil will also lose some of its sheen as an energy source, not least because most of the remaining reserves are located in politically instable regions.

On the other hand, natural gas, which has made substantial headway in the past 30 years, will gain in significance, mainly because it offers the best CO₂ balance of all fossil fuels.

The big unknown when analysing conventional energy sources is nuclear power. As this is

the only CO₂-free energy source that can reliably meet baseload demand, the issue of climate change has once again brought nuclear power into the spotlight as a possible alternative.

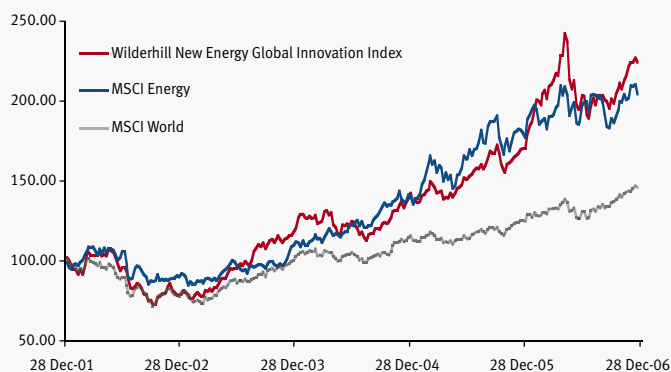
It is an interesting terrain for investors, but one that is not easily navigated. Apart from the swings in public opinion, other aspects requiring close scrutiny are safety, financing, liability and waste disposal, as well as decommissioning issues.

...RENEWABLE ENERGY IS GAINING GROUND

So what about renewable energy sources? We believe these are the future. After all, it's only a matter of time before fossil fuel sources dry up or become too costly to exploit.

But this does not mean that today's investors should favour renewable energy sources to the exclusion of all others. The so-called "new" renewable energy sources (which include hydro-electricity) currently cover about 3 per cent of the world's energy requirements and, given their future significance, should present some attractive growth rates and investment opportunities.

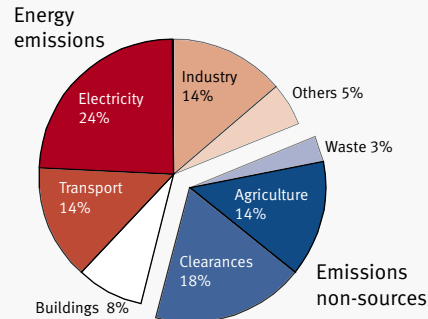
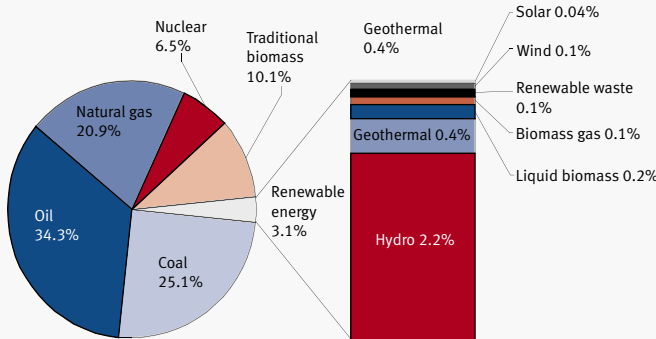
But not all renewable energy sources are equal in terms of sustainability. For instance, biofuels (ethanol, biodiesel, etc) have attracted much public attention recently, even though the energy density of the underlying photosynthesis is substantially lower than that of solar and wind power.

Energy stocks performance

Source: Factset

Energy sources

Emissions from energy consumption



Source: International Energy Agency; World Resources Institute

What's more, the intensive cultivation required for their production generates other kinds of problems.

Not all of the alternatives being put forward as viable solutions to the energy problem will live up to their long-term expectations. From an investor's point of view, highly selective stock-picking is of prime importance, especially because, when it comes to renewable energy sources, there are often too many investors chasing after too few attractive opportunities, pushing prices to ridiculous heights.

An alternative to searching for new energy sources – though a far less spectacular solution – is to make more efficient use of the sources we already have. Various estimates indicate that up to two-thirds of energy could be saved by raising the efficiency of its use (eg, building technology, transportation) without necessarily losing on performance.

For example, according to the

US Department of Energy, some 6.6 terawatt-hours (TWh) of energy could be saved a year in the US by simply replacing the neon lighting in advertising signs with energy-saving LED technology. This corresponds roughly to half the annual output of a state-of-the-art nuclear power (cf. a current project in Olkiluoto, Finland).

THE JOURNEY COUNTS, NOT THE DESTINATION

How can investors gain from the changes expected to come about in the energy sector? The answer lies in the fact that it's the journey that counts, not the destination. Instead of setting our sights on some distant future, where all energy is supplied by renewable resources, we should focus on the transition towards a more sustainable energy mix, the actual energy transition.

As the chart opposite shows, this approach has worked for investors in the past. Although renewable

energy sources clearly outperformed the world's stock markets in the past three years, they did only marginally better than the conventional energy index and displayed a lot more volatility.

With this in mind, investors would be well advised not to jump too soon on the bandwagon of "new" energy sources, but ensure instead a firm footing for their portfolios, selecting those energy companies that have both the technical knowhow and the required capital to play an active role in the energy transition.

It is important that investors not only think about the (presumed) energy mix of the future but also work out a clear path by which it can be realistically achieved.

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