

Asset Management Equity Business

Thematic Insights: Global Energy Winners



Energy conservation: a necessary pillar of any energy plan

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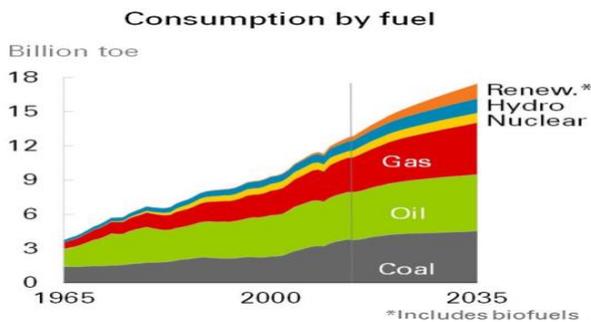
"Changing the carbon emissions path? No silver bullet, need action on many fronts"

BP Energy Outlook 2035 (2015)

The world runs on energy

We all use energy in different forms throughout the day. While we are oftentimes not aware of our energy consumption, no matter what we do, energy is a part of it. From switching on the light in the morning, brewing coffee, to commuting to the office, using a PC at work, or watching TV, we constantly consume energy as part of our activities. A lot of energy comes in the form of indirect ("grey") energy as well, so even as we are jogging, we burn calories from food that was produced and transported by the use of energy, and we wear clothes and jogging shoes that are made from petrochemicals. Even during the night, the refrigerator and the home heating systems work. As societies develop, so will their per capita consumption of primary energy. People buy cars, commute, travel by airplanes and use electric devices. The industry produces more steel and aluminium, and manufactures and transports more goods. Together with an increased world population, this means primary energy consumption rose 280% between 1965 and 2015.

Chart 1. Primary Energy Consumption, including forecast



Source: BP Energy Outlook 2035 (2015)

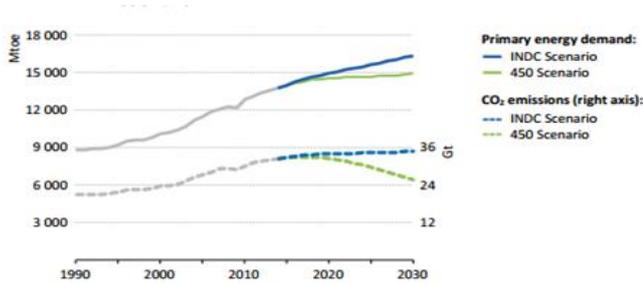
Carbon emissions have to be lowered

While the world constantly consumes more energy, with very brief interruptions (like the financial crisis of 2008/09, a drop that can barely be recognized from chart 1, there has been a growing concern about man-made carbon emissions and their impact on the global climate. In December 2015 at the international convention on climate change in Paris, a draft treaty was negotiated by representatives of 195 countries and adopted by consensus. It calls for very substantial contributions by each country to reduce carbon emissions.

But with the overall growth in primary energy consumption still being strong, countries and therefore the world community risk to miss the deadlines in the plan to contain global warming at well below 2°C above pre-industrial levels. The IEA estimates that according to their scenario, the world must follow the lower emission curve to preserve a 50% chance of containing global warming to a maximum of 2°C. Even if the world reduces carbon emissions, but only to the tune of their Intended Nationally Determined Contributions (INDCs) submitted by governments, emissions would stabilize but likely be way too high to be consistent with the 2°C goal, let alone to keep it “well below” 2°C.

China plans to increase nuclear energy electricity very substantially. However, with its considerable risks in terms of waste disposal and nuclear accidents, nuclear energy is not a silver bullet. Renewable energy, traditionally in the form of hydro electricity, or new renewable energy in the form of solar, wind, and geothermal, is growing rapidly and can command a much larger share in the future. In charts 1/2, it is visible that despite the strong growth of new renewables, hydro, and nuclear - fossil fuel consumption is still projected to grow and therefore lead to even higher carbon emissions.

Chart 2. Global primary energy demand and related emissions by scenario

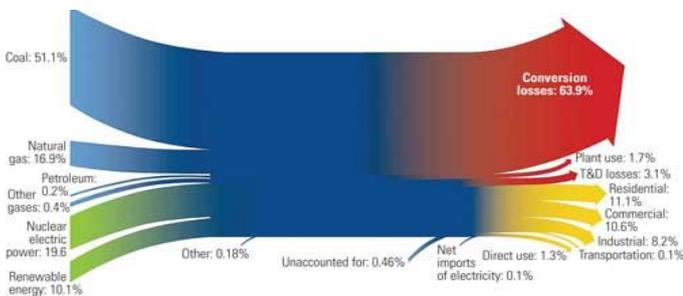


Note: Mtoe = million tonnes of oil equivalent; Gt = gigatonnes.
Source: IEA World Energy Outlook Special Report (2015)

Can energy conservation help solve the problem?

Energy conservation does not have the best reputation. In the past, energy conservation meant to simply reduce an activity that is considered worthwhile. But nowadays, with technological advances, there is no longer the classic trade off between an activity and its considerable unwanted consequences on the environment. The idea is to still have the same output, but with much lower energy input. If a job can be done with much lower input, but the quality of output is still at least the same, why not do it the smart, energy efficient way?

Chart 3. Energy losses are tremendous, even before end user: the example of US power



Source: Powermag

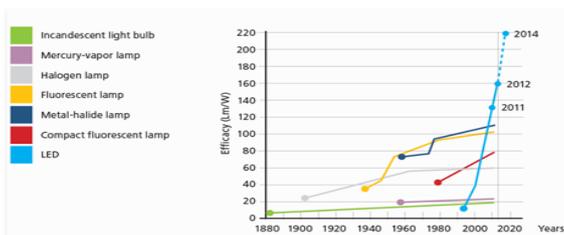
In this context we want to highlight three interesting areas:

Air conditioning: In the emerging markets, the climate is mostly hot and with growing wealth consumers want rooms to be air conditioned. In countries like the US, air conditioning has a long tradition and is one of the biggest consumers of electricity. Small changes in energy efficiency can make a considerable difference.

Boilers/water heaters: In emerging markets, with expanding wealth, consumers are connected to the electricity grid and switch from heating water mainly with wood to electric boilers.

Lighting/LED: Lighting by the use of a traditional light bulb is an extremely inefficient use of energy, as there is mostly waste energy (heat) produced. Large consumers of electricity for lighting are industrial users, if we think about roads, industrial buildings, parking garages, or hotels.

Chart 4. Efficacy increase over time for various light sources



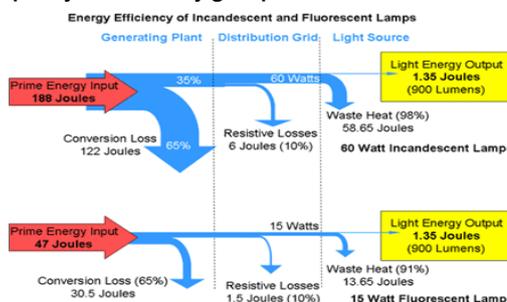
Source: LED Academy

To expand on the example of lighting, it is amazing how much energy is wasted along the way. Of the whole primary energy input that needs to be produced to profit from a light energy output of 1.35 Joules, 186.65 Joules are lost along the way – which is a stunning 99.28%! Even with a fluorescent lamp there is plenty of efficiency gain potential left, as more than 97% are still lost. But, as the example shows, primary energy production is reduced by 75% from 188 Joules to 47 Joules – even if the other losses than heat from the lamp itself are not impacted.

Conclusions

Almost all the countries in the world have agreed to dramatically lower carbon emissions. While there are timelines and checkpoints planned in the future, it is almost certain that some countries will miss their ambitious goals. In the wake of this dramatic transformation, the role that energy conservation could play is often not given enough focus, in our view.

Chart 5. Even with a fluorescent lamp there is plenty of efficiency gain potential



Source: www.mpoweruk.com

To simply produce more energy and then to waste most of it seems an unwise strategy, especially under the consideration that higher energy production comes at a cost. Direct costs are often paid by the consumers in the form of feed-in tariffs. Indirect costs are manifold: A lot more wind mills can negatively impact the landscape, and the nuclear buildout is expensive and has its risks of nuclear waste and accidents.

Energy conservation on the other hand, offers a very attractive opportunity to reduce primary energy consumption without having to change our way of living. In fact, energy efficiency should always be the starting point in any discussion around energy policy. Only the amount of energy really needed after all energy conservation efforts have played out should be produced.

At Credit Suisse, we believe it is still likely that world's primary energy consumption continues to rise, driven by the development in the emerging markets that are starting from a low level, but also world population growth. But, rather than trying to solve the problem "end of pipe" by trying to figure out how to produce enough energy in a sustainable way, energy conservation should really be the top priority to consider first. Otherwise, many countries might simply not live up to their committed carbon emission reduction targets. As a consequence we are shareholders in a variety of leading companies in the space of energy conservation such as LED lighting solution installers, producers of more efficient kitchen appliances, and more efficient water boilers and air conditioning equipment.

For further information (such as current fund factsheet, performance or quarterly comments) please click [here](#).

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Overview of Fund Characteristics

Portfolio manager	Thomas Amrein		
Fund manager since	May 1, 2014		
Location	Zurich		
Fund domicile	Luxembourg		
Fund currency	USD, CHF, EUR		
Inception date	Feb 28 th , 2006		
Management fee p.a.	For unit class B and BH: 1.92%; For unit class EB: 0.90% For unit class IBH: 1.20%; For unit class UB and UBH: 1.15%		
TER (as of 30.09.2016)	Unit class B 2.28%, CHF unit class BH 2.29%, EUR unit class BH 2.28%, EUR unit class IBH 1.53%, unit class UB 1.51%, EUR and CHF unit classes UBH 1.51%		
Maximum Sales Charge	5% for all unit classes except unit classes IBH and EB (max. 3%)		
Single Swinging Pricing (SSP) ¹	Yes		
Benchmark	MSCI World Energy (NR)		
Unit classes	Unit class B, UB, EB in USD, unit class BH and UBH in CHF, unit class IBH, BH, UBH in EUR		
ISIN	USD unit class B: LU0240067867	USD unit class UB: LU1144414064	
	EUR unit class IBH: LU0491231675	CHF unit class UBH: LU1144414148	
	CHF unit class BH: LU0348405399	EUR unit class UBH: LU1144414221	
	EUR unit class BH: LU0240068089	USD unit class EB: LU1043177077 (QI only*)	

Source: Credit Suisse, February 28, 2017

¹ SSP is a method used to calculate the net asset value (NAV) of a fund, which aims to protect existing investors from bearing indirect transaction costs triggered by in- and outgoing investors. The NAV is adjusted up in case of net inflows and down in case of net outflows on the respective valuation date. The adjustment in NAV might be subject to a net flow threshold. For further information, please consult the Sales Prospectus.

*May only be held by qualified investors as defined in article 10 CISA and article 6 CISO.

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