

## MARKET REVIEW

### Inflation made the FED react

The month of June was marked by a more muscular speech from the FED. Indeed, the relatively high inflation figures on the other side of the Atlantic put some pressure on the central bank. It is now considering raising interest rates in 18 months. Against all expectations, this statement was followed by a fall in market rates, particularly for long maturities. As a result, bonds posted a positive performance in June, which reduced the annual loss of value. Swiss real estate benefited greatly from this movement, appreciating by nearly 5% over the month.

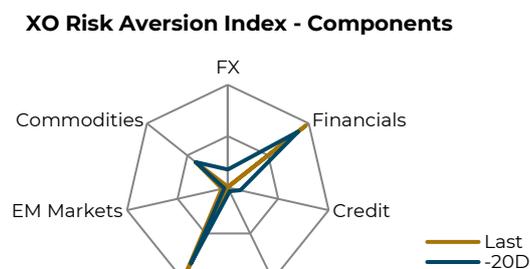
On the equity side, the Swiss market, led by large caps, was the best market of the month. Equities are generally positive and are not suffering from the FED's tougher stance.

The USD is the main beneficiary of a hypothetical rate hike and is up by 2% against the CHF. The other currencies are stable.

Finally, gold is the only asset that is being sold, and it ended negative for the month, even though real interest rates, the catalyst for its movements, remain negative.

Our risk indicators are rising. They are high on interest rates and on the financial sector.

	Value	June	2021
<b>Equity markets</b>			
Switzerland (SMI)	11 943	5.10%	11.58%
United States (S&P500)	4 298	2.22%	14.41%
Europe (Euro Stoxx 50)	8 931	0.68%	16.06%
Japan (Nikkei)	28 792	-0.24%	4.91%
China (Shanghai SE)	3 591	-0.67%	3.40%
Brasil (Bovespa)	126 802	0.46%	6.54%
<b>Currencies</b>			
USD/CHF	0.926	2.97%	4.55%
EUR/CHF	1.097	-0.20%	1.46%
GBP/CHF	1.280	0.17%	5.83%
EUR/USD	1.185	-3.10%	-3.08%
<b>Other asset classes</b>			
Swiss Real Estate		5.73%	6.73%
Swiss Bonds		0.37%	-1.25%
Foreign Bonds		0.42%	-2.07%
Commodities		4.29%	31.40%
Oil	73.47	10.78%	51.42%
Gold	1 772.28	-7.05%	-6.44%
<b>Rates / Indicators</b>			<b>Δ</b>
10 years Swiss rate		-0.22%	0.33%
10 years US rate		1.47%	0.55%
US Unemployment		5.80%	-0.90%
US GDP		0.40%	2.80%
US CPI		3.80%	2.20%



# H<sub>2</sub> : OR HOW TO TURN WATER INTO GOLD

Hydrogen is the most present molecule in the universe and it could change our future by becoming the energy vector of our century by transforming water into an infinite energy capacity. This will give major financial perspective to a limited number of players.

## Renewed interest in a common molecule

The discovery of hydrogen and its energy virtues predates the discovery of electricity or the use of oil. Indeed, the hydrogen fuel cell was discovered in 1839 and the Englishman Sir James Dewar succeeded in liquefying hydrogen for the first time in 1898. Unfortunately, the fire of the German airship Hindenburg in 1937 or the explosion of Challenger in 1986 left a reputation of danger to this gas which remains in the background, for the moment in the production of energy.

However, the use of hydrogen as an energy carrier is on the way to giving a future to this gas which remains the most abundant in the universe: 75% in mass and more than 90% in number of atoms. 10% of the human body is made of hydrogen.

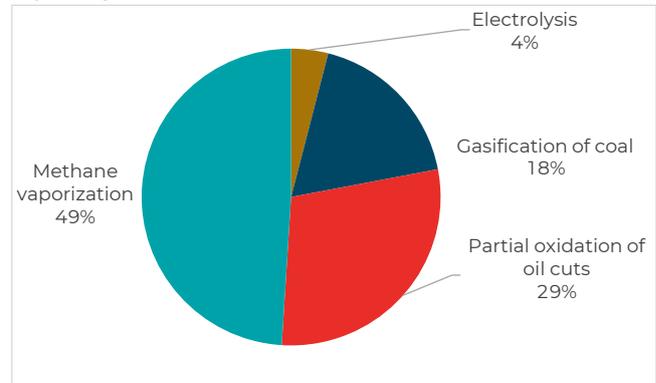
Hydrogen is both renewable, clean and efficient, so it fits perfectly with the development of clean energy. The combustion of hydrogen generates 3 times more energy than gasoline at constant weight while emitting no CO<sub>2</sub>. It can be stored easily and for a long time, even if this requires a significant amount of energy since it is necessary to compress or liquefy it.

## Grey production to turn green

Various means of producing hydrogen are possible. Today 96% of these means come from fossil fuels: natural gas, oil or coal. The most economical way is currently to break the methane molecule (steam reforming) with water vapor. This produces hydrogen and carbon dioxide (CO<sub>2</sub>). But this method is obviously problematic in terms of reducing greenhouse gases.

The greenest method is to perform electrolysis on water. This allows the production of hydrogen and dioxygen. This technique is unfortunately the most expensive (3 to 4 times more) at the moment but it allows the production of a "green hydrogen" as opposed to the grey "hydrogen" produced from fossil sources or the blue hydrogen for which a CO<sub>2</sub> capture and storage device is associated.

## Hydrogen production in the world, 2015

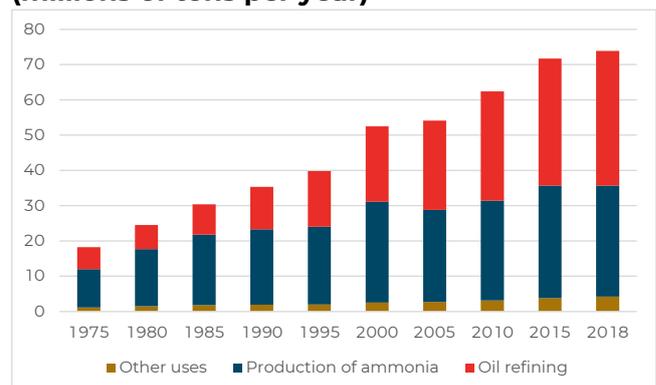


Source : Institution of Mechanical Engineers, XO Investments SA

In 2021, the hydrogen market is estimated at 120 million tons per year, i.e. about 2% of total world energy demand.

In 50 years, the production has been multiplied by 5 but the consumption remains oriented towards 2 markets only: oil refining, hydrogen allowing the purification and the production of ammonia allowing the manufacture of fertilizers. Until now, the use of hydrogen was not intended for sustainable development.

## World hydrogen consumption (millions of tons per year)



Source : The Future of Hydrogen, AIE, XO Investments SA

Nevertheless, new uses are emerging. Methanisation, or the conversion of hydrogen into methane, reduces the use of fossil gas in gas networks.

The use of fuel cells in vehicles creates a clean automotive industry. A vehicle running on hydrogen reduces the carbon impact by about 75%. The hydrogen fuel cell uses the reverse principle of electrolysis by reacting hydrogen with oxygen on electrodes, without emitting

anything other than water vapor, an ideal process in the context of the energy transition.

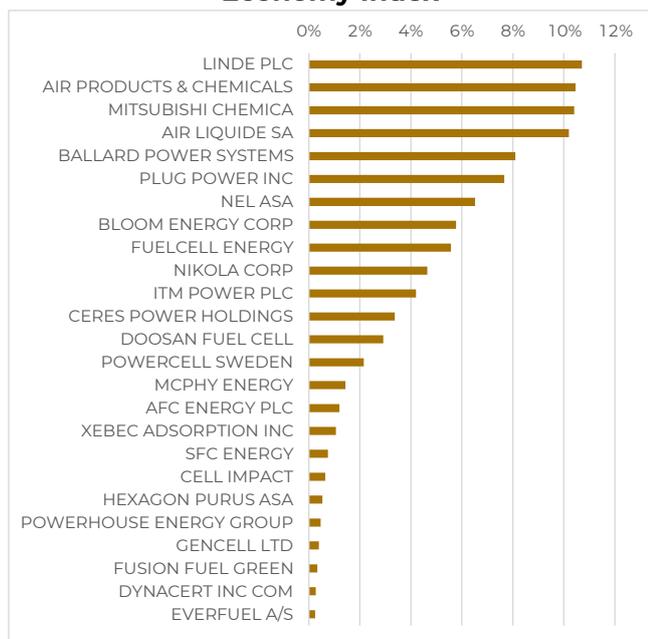
Finally, hydrogen can be used as a substitute for fossil fuels in industry. Obviously, this hydrogen must be green, produced by electrolysis for example, so that we can see a real reduction in CO<sub>2</sub> emissions.

### Still a small market but with large companies

Although the market is currently small, large companies such as Germany's Linde, France's Air Liquide and Japan's Mitsubishi Chemical dominate.

Europe is focusing its energy development on this technology, with France and Germany aiming to invest a total of around EUR 16 billion by 2030.

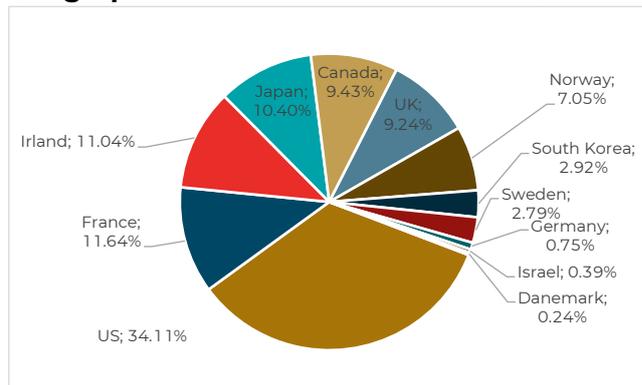
### Composition of the MVIS Global Hydrogen Economy Index



Source : MVIS Indices, XO Investments SA

Although the United States accounts for nearly a third of the market, Europe accounts for 40% of the weight in terms of market capitalization of an index representative of this hydrogen economy.

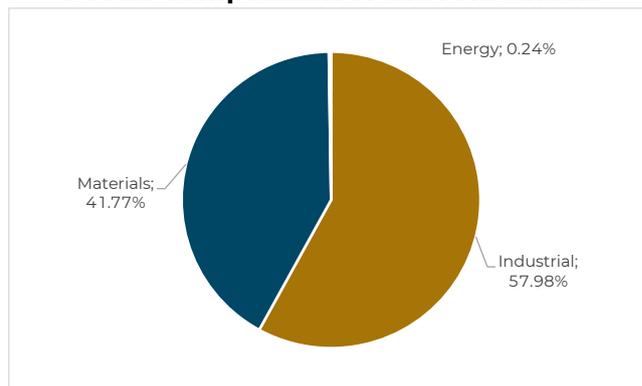
### Geographic allocation of the MVIS index



Source : MVIS Indices, XO Investments SA

The main companies are from the industry and materials sector. Hydrogen, the energy carrier, could therefore revolutionise a sector without being part of it. A form of disruption of the energy sector!

### Sector composition of the MVIS index



Source : MVIS Indices, XO Investments SA

### Lowering costs to create potential

The use of hydrogen in transportation via fuel cells or in electricity production is one of the ways to achieve sustainable development. The political will of many countries (Europe, Japan in particular) creates the ideal conditions for the emergence of a high-potential market. The development of the infrastructure necessary for this transition and the lowering of production costs of green hydrogen by electrolysis are the key to the success of this new energy vector.