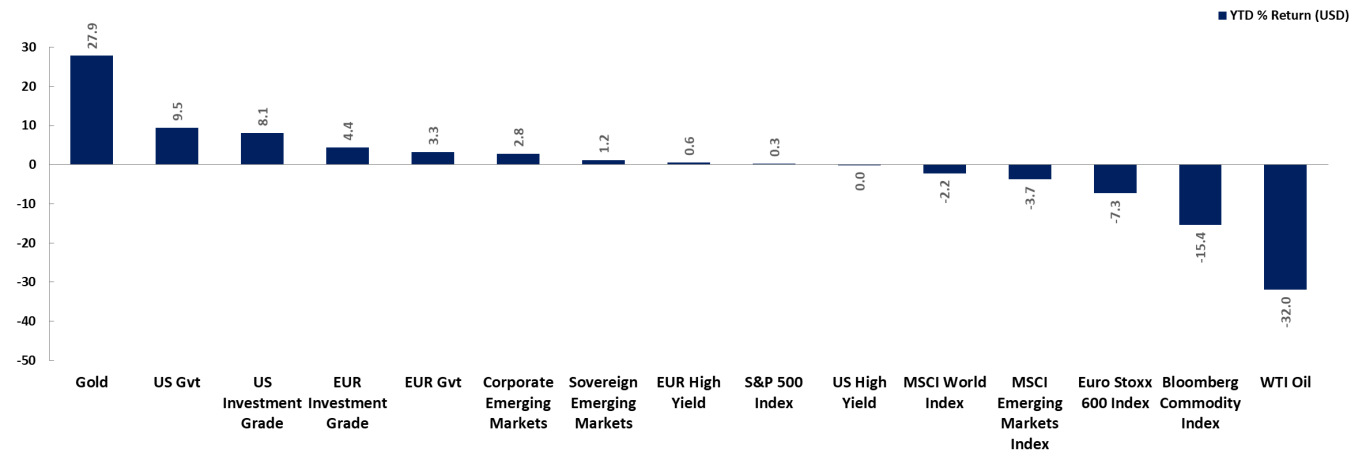
MAM Insights

We have been advocating a Long position in precious metals since Q4 2018, starting with gold. Gold prices have moved up by over 50% since then. In Q1 2020 the combination of 1) significant underperformance of silver relative to gold and 2) our view that long-term inflation expectations would rise pushed us to switch our precious metals exposure in favour to silver. Since then, gold and silver prices have continued rising to 2011 and 2013 highs respectively. So far in 2020, gold and silver prices are +27.7% and +36.4% respectively. The allocation to precious metals has been positive for portfolios. In this note we will provide a technical update on both metals. We will also introduce a thematic which we think will catch investors' attention over the coming year – hydrogen. Over the last 1.5 years, we have done extensive work on "ESG" investing. To us, hydrogen represents a viable source of renewable energy in the future. Industry leaders will emerge. We cite a few of them in this report.

Chart 1. Asset Class return YTD (USD Base)



Precious Metals

Expanding use of solar power and global initiatives to boost "green energy" could sharply increase demand for silver. In a speech last week calling for a "carbon pollution-free power sector by 2035", Joe Biden outlined a plan that would require rapid acceleration in the deployment of renewable wind and solar power as well as electricity storage. In addition to the rapidly-growing investment-haven demand for silver, the measures to stem global warming, proposed in Biden's speech, could dramatically increase demand for silver. Industrial applications, including electronics and photovoltaic cells used in solar panels, account for about 55% of silver demand, according to RBC Capital markets. In addition, the USD Index is starting to break down **(Chart 2)**. It is currently testing the 10-year uptrend. A successful break down of this trend would lead to a USD target of 90 (-5% from current levels). This would provide significant tailwind to precious metals' prices including silver.

Technically, both gold and silver look positive long-term with additional upside potential in silver. As silver slowly began recovering from its false breakdown this spring, we became increasingly bullish. Since mid-May, when silver traded at $17.07, we have strongly recommended its purchase. Silver (current price $24.3) has now broken-out decisively **(Chart 3)** on massive trading volume and price explosion from a 4+ year base formation. As gold (current price $1,936) evolves above its $1,921 all-time high, silver remains 51% below its all-time high. Gold and silver both look overbought from a

Chart 2. US Dollar Index (Weekly)

Source. Bloomberg, MAM Research

Chart 3. Silver Spot (Weekly)

Source. Bloomberg, MAM Research

short-term perspective with 14-day RSIs way above 80. This usually suggests a short period of price consolidation. Yet, the long-term potential for both metals remains higher. With gold prices breaking out above the $1,921 highs **(Chart 4)**, it completes a multi-year "cup and handle" formation which suggests a potential medium-term target of $2,300 (+21% upside potential). With relatively flat positioning vs. gold, silver stands out as a catch up trade. Should the last five years represent a technical base and the March low a "bear trap" then silver prices could be retracing their 2011- 2020 collapse with targets of possibly $35 (+44% upside potential). The silver potential outperformance is further confirmed by the break-down of the Gold/Silver ratio **(Chart 5)**, a positive sign in favour of silver.

Investment Implications

Volatility remains elevated in both silver (1M Implied Vol.: 61%) and gold (1M Implied Vol.: 22.7%). Based on over-bought short-term technicals, we believe a consolidation over the next couple weeks is probable. We will aim to take advantage of the short term volatility to sell calls and generate some yield enhancement. In accounts where options are not applicable, we look to take some short-term profits with a view to add back at c.-5/10% from current levels. Our long term view remains very bullish.

Chart 4. Gold Spot (Weekly)

Source. Bloomberg, MAM Research

Chart 5. Gold to Silver Ratio (Weekly)

Source. Bloomberg, MAM Research

The "Green Hydrogen" Economy

In recent years, hydrogen has been enjoying unprecedented political and business momentum with the number of both policies and projects seeing the light of day around the world growing rapidly. Yet, what makes hydrogen so interesting? The reactive non-metal element offers ways to decarbonize a wide range of industries (i.e. long-haul transport, chemicals, iron and steel, etc.), it can help improve air quality, but also strengthen energy security **(Figure 1)**. Hydrogen is also versatile, meaning it can be transported as a gas through pipelines or in its liquid form by ships, much like liquefied natural gas (LNG). Hydrogen is the leading option for storing electricity over days, weeks, or even months. It can transport energy produced from renewable sources over long distances. For instance, Australia could export its solar or wind energy surplus to other countries by storing and transporting it thanks to hydrogen over long-distances.

However, the clean and widespread use of hydrogen in the global energy transition does face a series of challenges. (1) Producing hydrogen from low-carbon energy sources is costly at the moment, but some reports are encouraging. The hydrogen council estimates the cost of green hydrogen could drop as much as 60% by 2030 with prices including the cost of storage and transportation potentially falling to $2/kg ($15/MMBtu) by 2030 **(Chart 6)** and to $1/kg ($7.4/MMBtu)

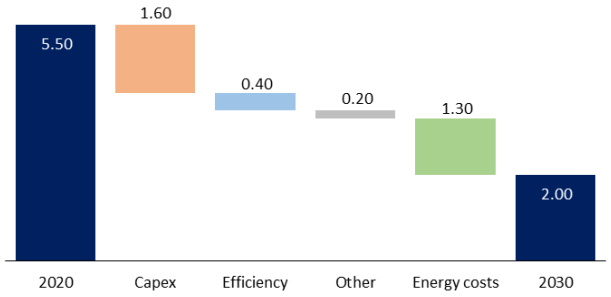
Figure 1. Economic Energy Transition

Driving Forces

1. GHG emission reduction
2. Future industry promotion
3. Energy security

Source. MAM Research

Chart 6. Hydrogen Prices Set to Drop Faster than Anticipated



Source. McKenzie, MAM Research *(Numbers in $/Kg)*

by 2050, making it increasingly competitive with natural gas in many regions, including China and Western Europe where natural gas prices are expected to rise to $3/MMBtu by 2030. (2) The slow development of hydrogen infrastructure is holding back a widespread adoption, yet the push for a green recovery from the pandemic should help alleviate this headwind. (3) Today, hydrogen is almost entirely supplied from natural gas or coal (e.g. "brown" hydrogen). Already with us at an industrial scale around the world, this "brown" hydrogen is responsible for annual CO_2 emissions equivalent to the United Kingdom and Indonesia combined. Harnessing current scale on a way to a cleaner energy future will require both the capture of CO_2 of hydrogen production from fossil-fuels (CCS process, **Figure 2**) and greater supplies of hydrogen from clean energy sources. (4) Regulation is currently infringing on the development of a clean hydrogen industry. Government and industries have been working together to ensure existing regulations are not unnecessary barriers to development and to introduce international safety, storage, and transportation standards to facilitate trade.

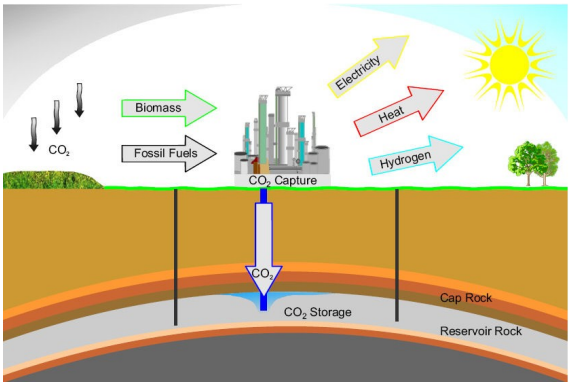
While there have been some false starts for hydrogen in the past, this time sure seems different. The green hydrogen economy is becoming viable sooner than most anticipate with Europe taking the lead to decarbonize its economy. Driving ambitious goals to 2030, it is now a key priority and recipient of capital in the EUs green recovery from the virus.

Right now, Europe accounts for 59% of total clean-hydrogen projects planned between 2020 to 2030. Asia Pacific nations (Australia, Japan, South Korea, and China) are moving quickly to build hydrogen grids. Existing natural gas infrastructures can even be repurposed to accelerate adoption. Building on to this unprecedented momentum for hydrogen, we outlined a cross-industry strategy (utilities, chemicals, capital goods, transportation) to find the key players who stand to gain the most from this economic transition.

For **Utilities**, more investments in green hydrogen is synonym with more investments in renewables, underpinning the long-term growth prospects of renewable leaders (RWE, EDP, and Iberdrola). Europe's hydrogen strategy should also pave the way for gas utilities to improve the medium to long term growth prospect of their gas networks.

For **Chemicals**, quite a few segments of the industry will be impact by the transition. First, a focus on electrolysers is a clear necessity in a shift towards hydrogen mobility. By 2030, investments in electrolysers could range between €24 to €42 billion. Positively improving top line growth prospects for ASA and McPhy Energy. Then, industrial gas companies will have a significant role to play in this transition. We see Linde and Air Liquid, two long standing advocates of a wide-scale hydrogen economy, as direct beneficiaries from a greater investment in both green and blue hydrogen. Lastly, Europe's

Figure 2. Carbon Capture Storage (CCS) Illustrated



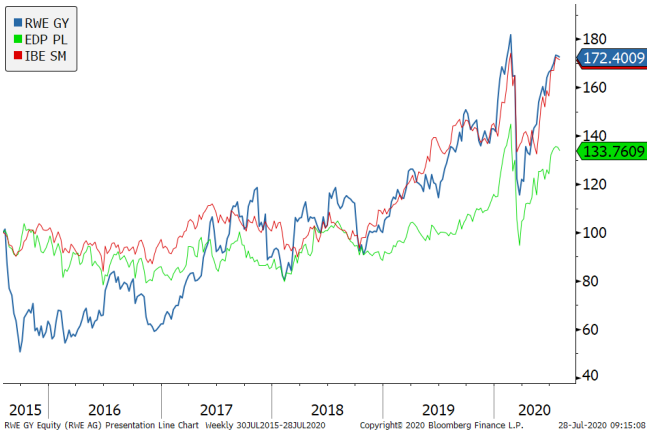
Source. Research Gate

Table 1. Europe's Investment in Renewable Hydrogen by 2050

Potential Stimulus	Application
€3-18 Bn	Low-carbon fossil fuel based hydrogen
€24-42 Bn	Electrolysers
€220-340 Bn	Solar and wind energy production
€11 Bn	Carbon Capture Storage
€65 Bn	Transport, distribution, storage, refuelling
€323-476 Bn	**Total**

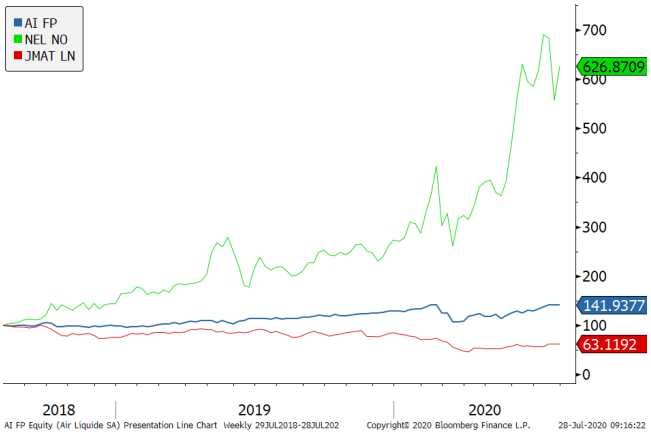
Source. MAM Research

Chart 7. Utility (B: RWE, G: EDP, R: Iberdrola)



Source. Bloomberg, MAM Research

Chart 8. Chemicals (B: Air Liquide, G: ASA, R: Johnson Matthey)



Source. Bloomberg, MAM Research

first development stage also includes the support for hydrogen fuel cells, notably for heavy duty road vehicles and long-haul freight. Here, Jonson Matthey, Ballard Power, FuelCell Energy, and Plug Power are set to see attractive top-line growth prospects.

For **Capital Goods**, we can expect a rather strong ramp up in renewable energy production. As a result, wind OEMs such as Vestas Wind Systems and Siemens (look for Siemens Gamesa, 100% wind energy exposure) will be directly exposed. On the other side of the balance, cable manufacturers like Prysmian and Nexans will benefit from the growing transmission need and expansion of the power distribution network.

For **Transportation**, rail (Alstom) should be a clear beneficiary of Europe's approach through the development of hydrogen-fuelled trains where electrification is not as cost-effective.

Investment Implications

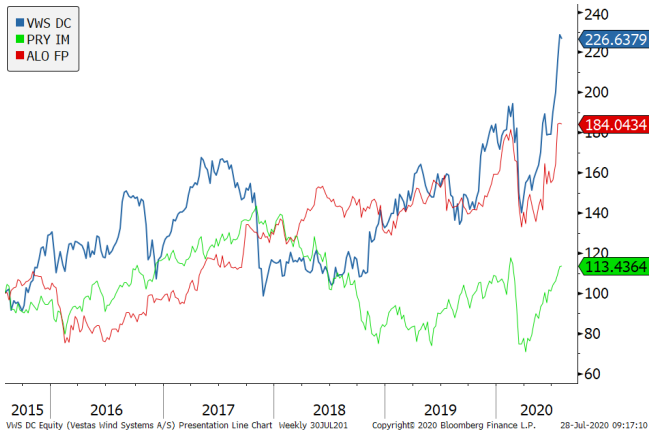
In the foreseeable future, we will trade said companies and continue to search for the next gem in a sector set to benefit extensively from a shift in both mentality and accelerated commitment to transition from a carbon intensive to a more responsible and sustainable economy. Our belief in this thematic opportunity is very strong. Due to the lack of available ETF we look to launch a certificate around this thematic over the coming weeks.

As always, please feel free to reach out to us should you have any questions or comments regarding this research.

Kind regards,

MAM Investment Team

Chart 9. CG & Transportation (B: Vetas, G: Prysmian, R: Alstom)



Source. Bloomberg, MAM Research

Let the energy transition continue...