Hydrogen Certificate
(H2C)

September 2022

Strategy

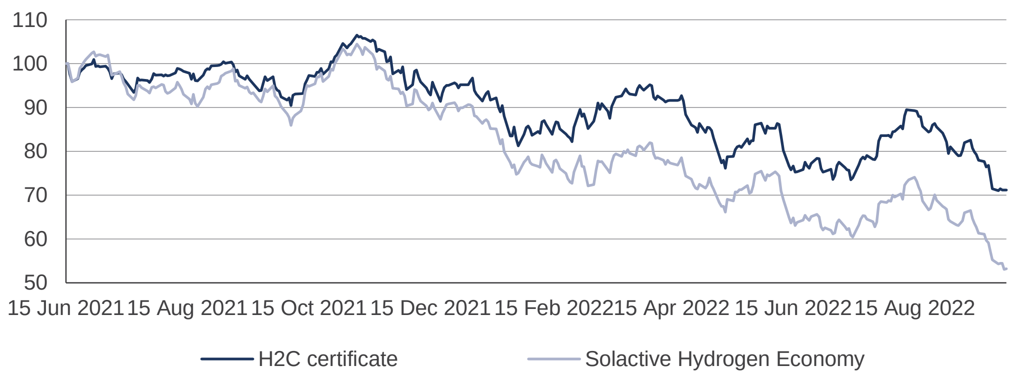
Thematic global equity exposure to best capture the developments of the hydrogen economy.

Concentrated portfolio of 25 stocks that demonstrate above-average thematic exposure, based on materiality assessment. The stock selection process includes proprietary quantitative screens and qualitative evaluation.

Diversified exposure across 4 hydrogen buckets: Core (direct hydrogen sales, electrolysers, fuel cells), Infrastructure (clean power – upstream – and H2 transportation – downstream), Decarb users (hydrogen as a feedstock/fuel/heat) and Tech enablers (intangible know how that can facilitate the deployment of hydrogen).

Performance[1]

	MTD	YTD	Since certificate inception
H2C certificate	**-13.3%**	**-25.2%**	**-28.8%**
Solactive Hydrogen Economy	-20.3%	-40.8%	-46.8%



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
2022	-11.9%	6.9%	5.4%	-8.5%	-1.2%	-11.8%	11.1%	-1.7%	-13.3%				**-25.2%**
2021						-0.6%	-2.0%	2.3%	-5.9%	8.8%	-4.0%	-2.7%	**-4.8%**

Comment

In September the hydrogen strategy's performance decreased by -13.3%, compared to -20.3% for the benchmark Solactive Hydrogen Economy.

Once again, the diversification of the strategy across the four hydrogen sub-themes helped mitigate the drawdown compared to a passive exposure.

Regarding individual stocks, Idex (-0.7%), Linde (-2.9%) and ABB (-5.2%) were the most resilient. Conversely, ITM Power (-49.3%, weaker-than-expected FY23 sales guidance and CEO departure), Ceres Power Holdings (-45.5%, lower-than-expected 1H revenue and operating loss of GBP 25.2mio) and Plug Power (-25.1%) suffered the most in the market reversal.

Key Information

Structure
Open-end actively managed certificate (SSPA category: Tracker certificate, 1300)

Issuer
Zürcher Kantonalbank, Zurich (S&P AAA)

Investment Manager
Rothschild & Co Bank AG, Zurich

Asset class
Equities

Portfolio management strategy
Active

ISIN
On request

Currency
USD

Inception date
15-Jun-2021

Dividend policy
Net dividend reinvested

Liquidity
Daily

[1] Risk and return data is calculated net of fees.

Past performance is not a reliable indicator or guarantee of future performance.

Rothschild & Co
Wealth Management

Market update

According to an analysis of more than 40 published hydrogen studies, hydrogen will play an “important role” in decarbonising heavy industry and transport, but a minor one in the heating of buildings.

The meta-analysis, carried out by a consortium of German research institutes on behalf of the German government, finds that the use of hydrogen for decarbonisation “becomes unavoidable… when reaching a threshold of 80% GHG greenhouse gas reductions compared to 1990 levels”.

According to the study, hydrogen will provide 4-11% of the final global energy consumption in 2050, with the main driver for climate neutrality being “a drastic decrease in final energy consumption by energy efficiency measures, and direct electrification”.

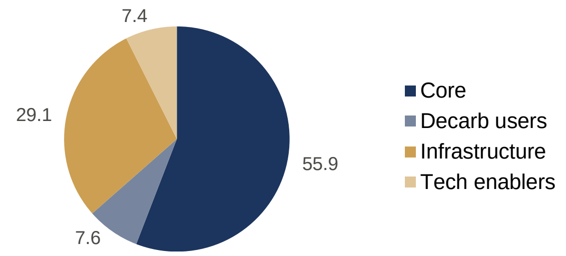
The actual ramp-up in hydrogen usage will be “country-specific, as it relies on national climate neutrality ambitions and already existing infrastructures”, says the study.

The largest share for hydrogen and its derivatives in total energy demand will come from transport — including shipping and aviation.

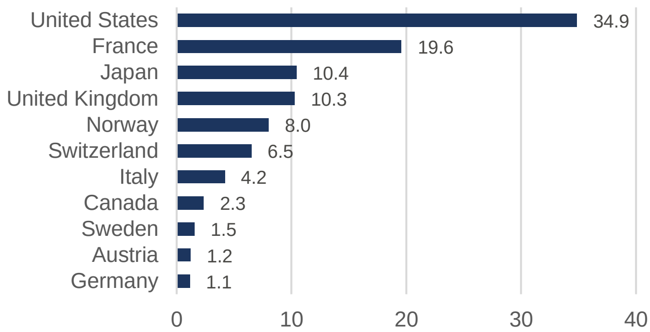
Portfolio rebalancing

We reduced Verbund (-1.2%, Infrastructure, Utilities) on further regulatory risks, and increased Xcel Energy (+1.2%, Infrastructure, Utilities).

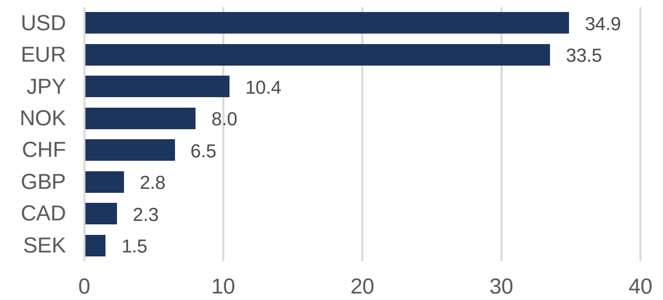
H2 "bucket" allocation (%)



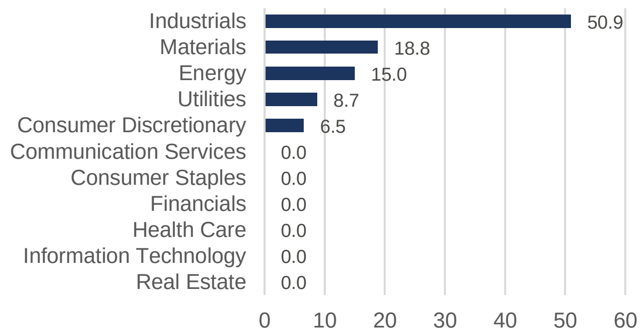
Country allocation (%)



Currency allocation (%)



Sector allocation (%)



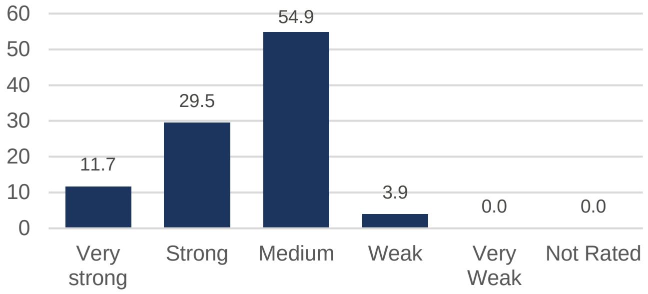
Top 10 holdings

Rank	Company name	Country	Sector	H2 ”bucket”	Weight
1	Linde PLC	United Kingdom	Materials	Core	7.4%
2	Gaztransport et technigaz SA	France	Energy	Core	6.7%
3	Toyota Motor Corp	Japan	Consumer Discretionary	Decarb users	6.5%
4	ABB AG	Switzerland	Industrials	Core	6.5%
5	IDEX Corp	United States	Industrials	Infrastructure	6.5%
6	Air Liquide SA	France	Materials	Core	6.4%
7	Emerson Electric Co	United States	Industrials	Infrastructure	5.6%
8	Bloom Energy Corp	United States	Industrials	Core	5.6%
9	Equinor ASA	Norway	Energy	Infrastructure	4.8%
10	Plug Power Inc	United States	Industrials	Core	4.8%

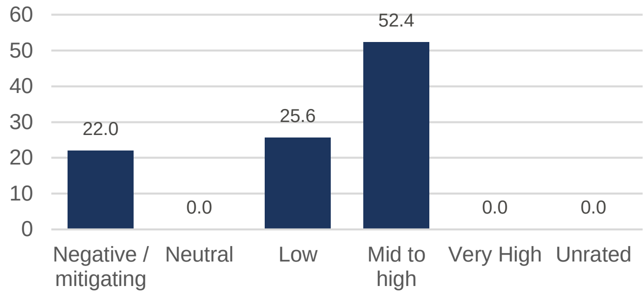
ESG portfolio characteristics

Portfolio ESG track record	Medium	**Portfolio carbon exposure**	Low
Portfolio average rating	A	**Average CO_2 sales intensity**	403.0

ESG – Position distribution (%)



Carbon – Position distribution (%)



Largest positions

Company name	Weight	ESG track record	MSCI ESG rating	Carbon exposure risk	CO_2 sales intensity
Linde PLC	7.4%	Medium	A	Mid to high	1332.8
Gaztransport et technigaz SA	6.7%	Medium	A	Mid to high	245.4
Toyota Motor Corp	6.5%	Medium	A	Mid to high	21.6
ABB AG	6.5%	Strong	AA	Low	14.0
IDEX Corp	6.5%	Strong	AA	Low	15.7
Air Liquide SA	6.4%	Medium	A	Mid to high	1370.4
Emerson Electric Co	5.6%	Medium	A	Mid to high	45.6
Bloom Energy Corp	5.6%	Medium	BBB	Negative / mitigating	190.3
Equinor ASA	4.8%	Very Strong	AAA	Mid to high	136.3
Plug Power Inc	4.8%	Medium	A	Low	40.3

Remarks

- The ESG track record and the MSCI ESG Rating measure how well a company performs on environmental, social and governance issues compared to other companies (peers) in the same industry. The importance of the 3 different factors varies by industry. Companies with a below average ESG track record / MSCI ESG Rating are considered riskier since they are more likely to be impacted by factors such as controversies, new social and environmental regulations, bad reputation, litigation risk, poorly motivated work force and financial mis-management.
- The Carbon Exposure Risk measures the probability and severity that a company is negatively impacted by climate change. Climate change exposure can be physical, for example through extreme heat or flooding, policy related, for example through the introduction of a carbon tax, or technological, for example through competitors developing greener products. The risk is a function of the company's exposure to climate change and of how well the company is managing that exposure.
- The CO2e Sales Intensity measures how much CO2 equivalents are emitted by a company per USD 1 million sales in the most recent reporting year as reported by MSCI ESG Research. The emissions are direct emissions generated by sources owned or controlled by the company and those from the generation of purchased energy.
- The ESG distributions in the charts exclude money market and derivative positions such as foreign currency forwards.

Important information

This document is produced by Rothschild & Co Bank AG, Zollikerstrasse 181, 8034 Zurich (the "Bank") for information and marketing purposes only and for the sole use of the recipient. Save as specifically agreed in writing by the Bank, it must not be copied, reproduced, distributed or passed, in whole or part, to any other person. The content of this document does not constitute a personal recommendation or an offer or invitation to buy or sell financial instruments. Nothing in this document constitutes investment, legal, accounting or tax advice. Although the information and data herein are obtained from sources believed to be reliable, no representation or warranty, expressed or implied, is or will be made and, save in the case of fraud, no responsibility or liability is or will be accepted by the Bank as to or in relation to the fairness, accuracy or completeness of this document or the information forming the basis of this document or for any reliance placed on this document by any person whatsoever. No representation or warranty is given as to the achievement or reasonableness of any future projections, targets, estimates or forecasts contained in this document. Furthermore, all opinions and data used in this document are subject to change without prior notice. Laws or other regulations may restrict the distribution of this document in certain jurisdictions. Accordingly, recipients should inform themselves about and observe all applicable laws and regulations. Neither this document nor any copy thereof may be sent to or taken into the United States or distributed in the United States or to a US person. Rothschild & Co Bank AG's registered office is at Zollikerstrasse 181, 8034 Zurich, Switzerland. It is authorised and regulated by the Swiss Financial Market Supervisory Authority (FINMA).