



## 5 minutes with... Michel Wiskirski, Carmignac Energy Transition Expert

---

Published  
June 10, 2022

Length  
🕒 6 minute(s) read

---



**Energy transition is all over the news. Our expert Michel Wiskirski explains the misunderstood truths about it.**

## What are the most misunderstood facts about energy transition?

**Michel Wiskirski:** Metals and mining are at the heart of climate fight. It is very important to understand that energy transition, by nature, is metal intensive. To put it simply, energy transition can't happen without commodities and beyond that, a sustained growth in renewable energy is synonym of a quasi-exponential growth of metal usage and mining.

## Can you give us a few examples from the energy generation side?

**M. W.:** Indeed, renewable sources of energy consume multiple times more minerals than traditional energy generation sources. A few numbers to highlight this: an onshore wind plant requires 8 times more minerals as a gas-fired plant of the same capacity. An offshore wind plant requires about 17 times more and a solar photovoltaic (PV) plant 9 times more. More specifically the energy transition metal by essence is copper. Copper intensity is massive. While it takes 1 ton of copper per megawatt (MW) for a natural gas fired power plant, it takes 2 tons for onshore wind, 3 tons for solar PV and in between 11 and 12 tons for offshore according to the latest numbers provided by the International Energy Agency. That same analysis applies to steel, zinc and other minerals.

I would also add that even in fossil fuel-based technologies, achieving higher efficiency and lower emissions relies on the extensive use of minerals. For example, the most efficient coal-fired power plants require a lot more nickel than the least efficient ones in order to allow for higher combustion temperatures.

## Now if we turn to mobility and transportation, what would a wider use of electric vehicles require?

**M. W.:** If we look at traditional ICE (internal combustion engine) cars, one of the first climate fight was to reduce carbon dioxide and particles from car emissions. That has been done through upgrading the auto catalysts. In metal and mining terms, this has meant using much more abundant quantities of palladium and platinum.

An electric car uses five times as much minerals as a conventional car. Electric vehicles rely heavily on copper as well. Figures speak for themselves: a traditional combustion car is composed of 25kg. Electric vehicles on the other hand need on average three to four times as more copper around roughly 85kg. Additionally, the cabling for charging stations of electric vehicles will be another source of copper usage. To give you an idea, the demand for copper due to electric vehicles is expected to increase from 600 000 tonnes in 2021 to roughly 2.9 million tonnes by 2030<sup>1</sup>. And where does the copper come from? Mining companies.



## What about batteries for cars?

**M. W.:** The most common chemistries of battery electrodes rely on a combination of lithium, nickel, cobalt and manganese. The estimated material demand for the batteries of the electric vehicles sold in 2019 was about 19 kt for cobalt, 17 kt for lithium, 22 kt for manganese and 65 kt for nickel. For battery needs in the Stated Policies Scenario, cobalt demand expands to about 180 kt/year in 2030, lithium to around 185 kt/year, manganese to 177 kt/year and class I nickel to 925 kt/year.

So, renewable energies, electric vehicles, low carbon technologies are all undisputedly heavy consumers of metals – namely copper, steel, nickel, aluminium, cobalt, lithium and manganese. We favour those that stand to play an important role in the energy transition over the coming years.

## Investing into renewables seem to be the solution to fight against global warming. However, is it enough to reach the net zero emission target we have set out for 2050?

**M. W.:** Renewables are a long-term solution for reducing emissions, but this is part of the answer to the problem. You cannot simply close your eyes and invest into renewables hoping to decrease emissions over time. The opposite will happen.

As a matter of fact, the development of renewable sources of energy is adding new emissions. Over the past few years, the production of gigawatts of solar PV and windfarms has increased CO<sub>2</sub> emissions and not decreased them. We have just been running with 2 fixed costs systems, meaning 2 systems that emit more than what we had previously. We have produced more energy with more capacity that we have built.

## So what would it take to meet the net zero and decarbonization targets? Is there something we are missing out to achieve our energy transition goals?

**M. W.:** The energy transition will take place over time and the companies that pollute the most will also be key players in reducing these emissions; through their decarbonisation but also through the climate change mitigation initiatives they will implement.

Over the past 50 years, a third of the world's carbon dioxide emissions has come from only 20 companies – mainly world's largest major oil and gas companies. Therefore, reducing carbon emissions aggressively and rapidly requires action on the side of those large emitters.



## So what should we do as investors to contribute to energy transition?

**M. W.:** If we want to sizeably and efficiently reduce carbon emissions, both legs need to be addressed, financing not only companies developing renewables but also those diversified oil & mining companies, and through our investments encourage them to become big energy players with a better carbon footprint. The big players need to reduce their emissions and transition towards zero emissions and to invest in wind and solar energies, develop biofuels, carbon capture units, green hydrogen etc.

Big oil and big mining companies will have a big impact if they make efforts in terms of decarbonization. To exclude them would be a big mistake, would mean missing an opportunity to influence them.

## Do you believe there is a case for investing in transitioning companies despite all the controversies surrounding them? Isn't it against your responsible investment credentials?

**M. W.:** This is where we do things differently at Carmignac. Rather than restricting ourselves to the "best" students, those with zero or low carbon emissions, we also focus on companies with the highest reduction potential, within the most emitting segments. In other words, we invest not only in companies producing renewable energies and providing low carbon solutions but also the big key players that with their actions will enable drastic reduction in overall emissions.

We are investing in companies that show tangible intentions to improve CO2 and "decarbonization" in order to reach the goal of zero emissions by 2050.

## How important is engagement for you?

**M. W.:** We want to use our active shareholder rights to work with companies to transition and therefore use this strategy to make a real impact, authentic, meaningful, that can really help the world transition to a lower carbon economy. Those companies devote dozens of billions of dollars to developing new sources of oil and gas. We, as shareholders, need to call for capital reallocation towards cleaner avenues of energy.

This enormous pool of capital and its allocation in the years to come will be critical in achieving carbon neutrality. Carbon neutrality will not happen without those players being committed and investors engaging with them to drive this change and achieve these decarbonization goals.

<sup>1</sup>Energy and metals research, Wood Mackenzie report 2021



Discover Carmignac Portfolio Green Gold

# A sustainable equity fund acting for climate mitigation and energy transition

[Click here](#)



**Michel Wiskirski**

Fund Manager

Michel Wiskirski is a Fund Manager in the International Equities team, specialized in commodities. He joined Carmignac in 2014 as a Product Specialist in Emerging Markets and Commodities before being appointed as an Analyst specialized in Emerging Markets in 2015 and then as a Fund Manager in 2018. He started his career in 2006 at Crédit Agricole CIB where he worked as a Financial Analyst and shifted to BNP Paribas-Fortis Banque in 2007 where he held the position of Credit Analyst until 2008. In 2010, he joined UBS Investment Bank in London as an Associate in the EMEA Cross Asset Solutions team, position he held until 2014. Michel holds a Master's degree in Finance from ESSEC Business School, and two Master's degree in Law, one from the University of Oxford and one from the University of Paris II-Assas.

## Discover Carmignac Portfolio Green Gold

A sustainable equity fund acting for climate mitigation and energy transition

Investing with a purpose: Aiming to generate attractive returns on the long-term while having a positive environmental contribution.

Investing efficiently: Targeting innovative companies across the whole renewable and green industry value chains.

Investing sustainably: Seeking to invest at least 60% of assets in companies whose activity contribute to climate change mitigation and climate change adaption according to EU taxonomy standards<sup>1</sup>.

SFDR<sup>2</sup> Fund Classification: Article 9

<sup>1</sup>According to EU taxonomy standards.

<sup>2</sup>Since 15/05/2020. Sustainable Finance Disclosure Regulation (SFDR) 2019/2088. For more information please refer to [EUR-lex](#).



## Carmignac Portfolio Climate Transition A EUR Acc

ISIN: LU0164455502

Recommended  
minimum  
investment horizon



### Main risks of the Fund

**EQUITY:** The Fund may be affected by stock price variations, the scale of which is dependent on external factors, stock trading volumes or market capitalization.

**COMMODITIES:** Changes in commodity prices and the volatility of the sector may cause the net asset value to fall.

**CURRENCY:** Currency risk is linked to exposure to a currency other than the Fund's valuation currency, either through direct investment or the use of forward financial instruments.

**DISCRETIONARY MANAGEMENT:** Anticipations of financial market changes made by the Management Company have a direct effect on the Fund's performance, which depends on the stocks selected.

The Fund presents a risk of loss of capital.

**This is a marketing communication.**

This material may not be reproduced, in whole or in part, without prior authorisation from the Management Company. This material does not constitute a subscription offer, nor does it constitute investment advice. This material is not intended to provide, and should not be relied on for, accounting, legal or tax advice. This material has been provided to you for informational purposes only and may not be relied upon by you in evaluating the merits of investing in any securities or interests referred to herein or for any other purposes. The information contained in this material may be partial information and may be modified without prior notice. They are expressed as of the date of writing and are derived from proprietary and non-proprietary sources deemed by Carmignac to be reliable, are not necessarily all-inclusive and are not guaranteed as to accuracy. As such, no warranty of accuracy or reliability is given and no responsibility arising in any other way for errors and omissions (including responsibility to any person by reason of negligence) is accepted by Carmignac, its officers, employees or agents. Reference to certain securities and financial instruments is for illustrative purposes to highlight stocks that are or have been included in the portfolios of funds in the Carmignac range. This is not intended to promote direct investment in those instruments, nor does it constitute investment advice. The Management Company is not subject to prohibition on trading in these instruments prior to issuing any communication. The portfolios of Carmignac funds may change without previous notice. Risk Scale from the KIID (Key Investor Information Document). Risk 1 does not mean a risk-free investment. This indicator may change over time. The recommended investment horizon is a minimum and not a recommendation to sell at the end of that period. Access to the Funds may be subject to restrictions regarding certain persons or countries. This material is not directed to any person in any jurisdiction where (by reason of that person's nationality, residence or otherwise) the material or availability of this material is prohibited. Persons in respect of whom such prohibitions apply must not access this material. Taxation depends on the situation of the individual. The Funds are not registered for retail distribution in Asia, in Japan, in North America, nor are they registered in South America. Carmignac Funds are registered in Singapore as restricted foreign scheme (for professional clients only). The Funds have not been registered under the US Securities Act of 1933. The Funds may not be offered or sold, directly or indirectly, for the benefit or on behalf of a «U.S. person», according to the definition of the US Regulation S and FATCA. Company. The risks, fees and ongoing charges are described in the KIID (Key Investor Information Material). The KIID must be made available to the subscriber prior to subscription. The subscriber must read the KIID. Investors may lose some or all their capital, as the capital in the funds are not guaranteed. The Funds present a risk of loss of capital. The Funds' prospectus, KIIDs, NAV and annual reports are available at [www.carmignac.com](http://www.carmignac.com), or upon request to the Management. Investors have access to a summary of their rights in French, English, German, Dutch, Spanish, Italian at section 6 of "regulatory information page" on the following link :[https://www.carmignac.com/en\\_US](https://www.carmignac.com/en_US) Carmignac Portfolio refers to the sub-funds of Carmignac Portfolio SICAV, an investment company under Luxembourg law, conforming to the UCITS Directive. The French investment funds (fonds communs de placement or FCP) are common funds in contractual form conforming to the UCITS or AIFM Directive under French law. The Management Company can cease promotion in your country anytime. UK: This document was prepared by Carmignac Gestion and/or Carmignac Gestion Luxembourg and is being distributed in the UK by Carmignac Gestion Luxembourg UK Branch (Registered in England and Wales with number FC031103, CSSF agreement of 10/06/2013). In Switzerland: the prospectus, KIIDs and annual report are available at [www.carmignac.ch](http://www.carmignac.ch), or through our representative in Switzerland, CACEIS (Switzerland), S.A., Route de Signy 35, CH-1260 Nyon. The paying agent is CACEIS Bank, Paris, succursale de Nyon/Suisse, Route de Signy 35, 1260 Nyon. Copyright: The data published in this presentation are the exclusive property of their owners, as mentioned on each page. CARMIGNAC GESTION 24, place Vendôme - F-75001 Paris - Tél : (+33) 01 42 86 53 35 Investment management company approved by the AMF Public limited company with share capital of € 15,000,000 - RCS Paris B 349 501 676 CARMIGNAC GESTION Luxembourg - City Link - 7, rue de la Chapelle - L-1325 Luxembourg - Tel : (+352) 46 70 60 1 Subsidiary of Carmignac Gestion - Investment fund management company approved by the CSSF Public limited company with share capital of € 23,000,000 - RC Luxembourg B 67 549