

The transition to a regenerative food system

How to achieve food security while fostering environmental sustainability

2023





The complex interplay between food systems and environmental health is a central topic in global discussions around sustainability. Food production and consumption habits are already putting natural resources under pressure, and this challenging situation will be further exacerbated by the growth in the world's population, which is expected to reach a staggering 10 billion by 2050. Melanie Beyeler, Senior Portfolio Manager, explores the dynamics of our food system, its role in exacerbating climate change, and the urgent need to shift towards regenerative food production methods.

A complex web of interactions

Food systems comprise of all the stakeholders and activities involved in the production, aggregation, processing, distribution, consumption and disposal of food products. This complex network influences food security and has significant environmental implications. Food systems contribute extensively to greenhouse gas emissions, for example, thus intensifying climate change. As a result, climate change is expected to adversely affect the four core dimensions of food security: availability, accessibility, utilisation, and the stability of food supplies.¹

A major driver of climate change

Our current food system feeds the vast majority of the world's population and supports the livelihoods of over one billion people.² This system stems from a century of innovation. Crop yields have risen to unprecedented levels,

achieving greater efficiency on each plot of land and for every worker. As a result, the twentieth century saw food production surpass global population growth.³

However, this progress comes at a cost. Our current food system is responsible for:

- 33% of anthropogenic greenhouse gas emissions⁴
- 50% of methane emissions⁵
- 60% of global biodiversity loss
- 75% of freshwater use⁶

In short, food production is not only a major contributor to climate change but also harms the natural world's ability to recover by degrading land productivity, water resources and soil health.

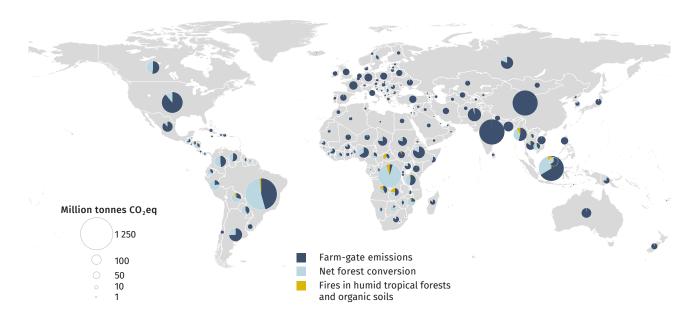


Figure 1. Greenhouse gas emissions on agricultural land (2020)

Source: FAO. 2022. World Food and Agriculture – Statistical Yearbook 2022

¹FAO, 2018, The future of food and agriculture

² IPCC (2019): Climate Change and Land

³ Joachim von Braun et al. (2023): Science and Innovations for Food Systems Transformation

FAO, 2022: The future of food and agriculture

⁵ Nature climate change, 2023: Future warming from global food consumption)

⁶ UN, 2023: The journey of food

The ESG considerations contained in this document can change without notice.

Increasing vulnerability to climate change

Climate change is, in turn, affecting food systems by triggering rising temperatures and extreme weather events. These changes have direct consequences on food production, including:

- A decline in the quality of biomass from rangelands and pastures
- An increase in the occurrence of crop and livestock pests and diseases
- Lower crop yields
- A reduction in the productivity of aquatic systems
- A decrease in the nutritional value of food

These developments create a pressing need to alter the way food is produced, processed and consumed - with

implications for producers and consumers alike. Crucially, all these changes also threaten to reverse the progress achieved in reducing hunger and malnutrition around the globe.⁷

The dual challenge of feeding the people of tomorrow

Based on the current food system, the UN Food and Agriculture Organization (FAO) estimates that it will be necessary to produce about 50% more food by 2050 in order to feed the expected global population of 10 billion.8 In fact, estimates suggest that between 691 and 783 million people in the world already faced hunger in 2022, 9% of the world's population is undernourished, and 42% of the world's population cannot afford a healthy diet.¹⁰ This situation will be further exacerbated by the impacts of climate change on access to – and the availability and utilisation of – food as well as the stability of diets of sufficient nutritional quality.¹¹

Figure 2. Impacts of climate change on livestock

Increase of temperature

Water Increase water consumption 2 to 3 times Forage Increase herbage growth on C4* species (30°C - 35°C) Decrease feed intake and efficiency of feed conversion Production High producing dairy cows decrease milk production Meat production in ruminants decreases because of a reduction in body size, carcass weight, and fat thickness Reproduction Decreases reproduction of cows, pigs, and poultry of both sexes Reduce reproduction efficiency on hens and consequently egg production Health May induce high mortality in grazing cattle New diseases may affect livestock immunity

Prolonged high temperature may affect livestock health (e.g. protein

Forage

Changes in herbage growth (more effect on C3* species) Decreases forage quality (more effect on C3* species) Positive effects on plants:

- Partial stomata closure
- Reduce transpiration
- Improve water -use efficiency

Forage

Increase of CO₂

Affect composition o

- pattern
- Changing optimal growth rate

and lipid metabolism, liver functionality)

 Changing availability of water

Diseases

Pathogens

- Parasites
- Disease snread
- Disease transmission
- Disease transmiss
- Outbreak of severe disease
- Spreading of vector -borne diseases

Forage

Precipitation variation

Long dry seasons decrease:

- Forage quality
- Forage growth
- Biodiversity

Floods change:

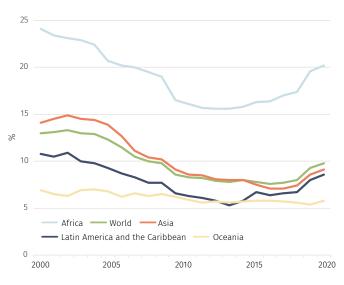
- Form and structure of roots
- Leaf growth rate

Source: IPCC (2019): Climate Change and Land

^{*}C3 and C4 species are plants with different biological characteristics that make them more or less suited to different ecosystems and climate scenarios.

The ESG considerations contained in this document can change without notice.

Figure 3a. Prevalence of undernourishment



Source: FAO. 2022. World Food and Agriculture - Statistical Yearbook 2022

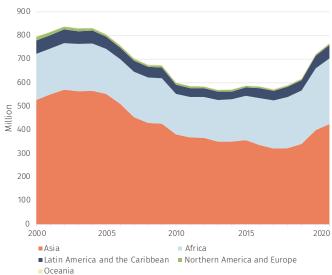
The need to transition to a regenerative food system

The ultimate objective of our food system should be to ensure that all people have access to healthy and nutritious food while minimising the harmful effects of food production and consumption on the environment and the climate. Today's "net nature-negative" food system can and must become "nature-positive".

A nature-positive food system is characterised by a regenerative, non-depleting and non-destructive use of natural resources and is based on a regenerative system of agriculture. 12 Regenerative agriculture is a holistic approach focused on achieving multiple goals at once: Increasing carbon capture, lowering greenhouse gas emissions, bolstering biodiversity, enhancing soil water retention, minimising pesticide use, optimising nutrient utilisation, and bolstering the livelihoods of farmers.¹³

A regenerative food system requires the transformation of the entire food value chain - from production and distribution to consumption.

Figure 3b. Number of people undernourished



Designing food that allows nature to thrive

Food production in a regenerative food system enhances land and water management, safeguards biodiversity, and restores soils and forests, all while helping to lower greenhouse gas emissions.

Rather than "bending" nature in order to produce the food we need, food can be designed in a way that allows nature to thrive. This involves using:14



Diverse ingredients: To boost food supply resilience through greater genetic diversity, businesses can use diverse ingredients in their

products. Instead of only using sugar cane or corn syrup for sweetness, they can opt for alternatives such as date palm, carob or natural sweeteners like monk fruit. Similarly, planting different crop varieties, like population wheat, enhances the resilience of global wheat production.



Lower impact ingredients: Shifting from high-impact animal products to lower-impact alternatives, as well as from higher- to

lower-impact crops, offers immediate benefits. Many companies are already transitioning from animal to plant proteins. Replacing wheat flour with pea flour in cereal can, for example, cut farm-level emissions by 40% and reduce biodiversity loss by 5%.

⁷ FAO, 2022: The future of food and agriculture

⁸ FAO, 2018, The future of food and agriculture

⁹ FAO, 2023: The state of food security and nutrition in the world

 $^{^{10}}$ UN, 2023: The journey of food

¹¹ IPCC (2019): Climate Change and Land

¹² Joachim von Braun et al. (2023): Science and Innovations for Food Systems Transformation

¹³ WBCSD, 2023: Cultivating farmer prosperity

¹⁴ Ellen MacArthur Foundation, The big food redesign (2021)

¹⁵ Environmental Defense Fund, 2023: Agricultural Technology Discovery Report

The ESG considerations contained in this document can change without notice.



Upcycled ingredients: A third of food is lost or wasted, but upcycling innovations can turn this food into valuable ingredients. The use of

upcycled ingredients reduces land usage and enhances the efficiency of invested land, energy and other inputs used in food production.



Regeneratively produced ingredients:

Regenerative production can lead to higher yields and boost profitability for farmers. While

there is no universal approach and practices may vary, certain practices boost food output and farmers' profits, while also delivering climate and biodiversity gains.

In addition, advancements in technology can boost the efficiency of food systems and thus support the transition to a regenerative food system. Specifically, technological developments such as Artificial Intelligence (AI), robotics and automation, biologicals, and genetics can contribute to four main agroecological goals:¹⁵



Reduce water use: With the aid of technologies like AI, soil moisture detectors and flow indicators, farmers can determine the best times

and areas for watering their crops, leading to more efficient irrigation.



Support plant and soil health: Advanced technologies can enhance soil and plant health through monitoring and by offering sustainable

alternatives. Innovations in biological and genetics technologies support safer products for both humans and the environment. Furthermore, biologicals can cut fertiliser use and sequester carbon.



Control pests and diseases: Technology can provide tools for effective pest identification, monitoring and control while bolstering plant

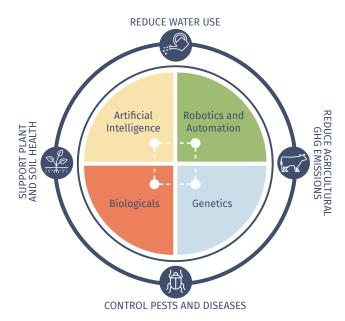
resilience. These advancements streamline pest assessment, thus reducing labour requirements and improving response times. Moreover, genetic technologies can bolster plant resistance to biotic stress.



Reduce agricultural greenhouse gas (GHG) emissions: The methods to cut agricultural GHG emissions vary, based on the emission source.

For nitrous oxide, the emphasis is on soil management, primarily the reduction of fertiliser use. Methane reduction techniques target livestock processes, including halting emissions directly from the animal, and capturing and transforming emissions from manure.

Figure 4. Agricultural technology fields and connected agroecological goals



Source: Environmental Defense Fund, 2023: Agricultural Technology Discovery Report

Minimising food loss and waste

Food loss and waste is defined as the decrease in the quantity or quality of food along the food supply chain.¹⁶ Food losses occur in the food supply chain from harvest through to retail, while food waste occurs in retail and consumption.

Combined food loss and waste amount to 25–30% of total food produced. In the period from 2010 to 2016, global food loss and waste equalled 8–10% of total GHG emissions.¹⁷ At a time when hundreds of millions of people worldwide are going hungry, it is striking that the amount of food lost and wasted per annum could feed one billion people.¹⁸

Food waste, particularly within households, has reached a substantial level across different countries. When food waste occurs, this means that we see all of the environmental impacts of food production without the benefit of people being fed. Surprisingly, household food waste per capita is similar across high-income, upper middle-income and lower-middle income countries.¹⁹

Minimising food waste and loss can help to reduce agricultural greenhouse gas emissions and eliminate the need to extend farmland to drive additional production. Implementing better harvesting methods, enhancing on-site storage, upgrading infrastructure and optimising packaging are effective ways to achieve this reduction.²⁰

¹⁶ https://www.fao.org/save-food/en/

¹⁷ FAO, 2014: Food Wastage Footprint

¹⁸ UN, 2023: The journey of food

¹⁹ UNEP, 2021: Food Waste Index Report

The ESG considerations contained in this document can change without notice.

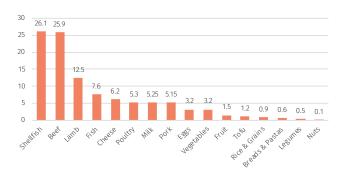
Sustainable consumption

Consumers can make a difference by choosing products that are eco-friendly, socially responsible and nutritious. Diets with enhanced nutritional and environmental benefits can create environmental shifts beyond what producers can achieve solely through new technologies.²¹

Avoiding food waste during consumption, reducing overconsumption, and changing dietary preferences can contribute significantly to ensuring healthy diets for all, as well as reducing the environmental footprint of the food system.²²

A comprehensive study found that consuming more animal-based foods generally results in a higher environmental footprint, while eating more plant-based foods tends to have a lower environmental impact.²³ Meat from ruminants, especially beef and lamb, is consistently identified as the single food source with the most significant environmental impact, most often in relation to GHG emissions and land use.²⁴

Figure 5. Kilograms of greenhouse gas emissions per 1,000 kilocalories



Source: https://www.un.org/en/climatechange/science/climate-issues/food

Transforming dietary habits on a global scale is, however, a complex undertaking due to the interplay of various factors. Dietary choices often stem from deeply rooted cultural traditions or restricted access to a variety of foods.²⁵

Conclusion

In a world in which we are increasingly aware of how closely systems are interconnected, the intricate relationship between our food systems and climate change is particularly striking. Balancing the rising demands of a growing global population with the urgent need to drive environmental sustainability is a massive challenge. However, the tools for change – ranging from regenerative agricultural practices to sustainable consumption habits – provide tangible solutions. Adopting a holistic and regenerative approach to food production, distribution and consumption is today more vital than ever to achieve food security coupled with environmental sustainability.

²⁰ IPCC, 2019: Food security

²¹ FAO, 2022: The future of food and agriculture

²² IPCC, 2019: Food security

²³ Nelson et al. 2016: Alignment of healthy dietary patterns and environmental sustainability)

²⁴ IPCC, 2019: Food security

²⁵ Nature climate change, 2023: Future warming from global food consumption and IPCC, 2019: Food security

Important disclaimers

The value of investments and the income derived from them can fall as well as rise, and past performance is no indicator of future performance. Investment products may be subject to investment risks involving, but not limited to, possible loss of all or part of the principal invested.

This document does not constitute and shall not be construed as a prospectus, advertisement, public offering or placement of, nor a recommendation to buy, sell, hold or solicit, any investment, security, other financial instrument or other product or service. It is not intended to be a final representation of the terms and conditions of any investment, security, other financial instrument or other product or service. This document is for general information only and is not intended

as investment advice or any other specific recommendation as to any particular course of action or inaction. The information in this document does not take into account the specific investment objectives, financial situation or particular needs of the recipient. You should seek your own professional advice suitable to your particular circumstances prior to making any investment or if you are in doubt as to the information in this document.

Although information in this document has been obtained from sources believed to be reliable, no member of the EFG group represents or warrants its accuracy, and such information may be incomplete or condensed. Any opinions in this document are subject to change without notice.

This document may contain personal opinions which do not necessarily reflect the position of any member of the EFG group. To the fullest extent permissible by law, no member of the EFG group shall be responsible for the consequences of any errors or omissions herein, or reliance upon any opinion or statement contained herein, and each member of the EFG group expressly disclaims any liability, including (without limitation) liability for incidental or consequential damages, arising from the same or resulting from any action or inaction on the part of the recipient in reliance on this document. The availability of this document in any jurisdiction or country may be contrary to local law or regulation and persons who come into possession of this document should inform themselves of and observe any restrictions. This document may not be reproduced, disclosed or distributed (in whole or in part) to any other person without prior written permission from an authorised member of the EFG group.

This document has been produced by EFG Asset Management (UK) Limited for use by the EFG group and the worldwide subsidiaries and affiliates within the EFG group. EFG Asset Management (UK) Limited is authorised and regulated by the UK Financial Conduct Authority, registered no. 536771. Registered address: EFG Asset Management (UK) Limited, 116 Park Street, London W1K 6AP, United Kingdom, telephone +44 (0)20 7491 9111.

Independent Asset Managers: in case this document is provided to Independent Asset Managers ("IAMS"), it is strictly forbidden to be reproduced, disclosed or distributed (in whole or in part) by IAMs and made available to their clients and/or third parties. By receiving this document IAMs confirm that they will need to make their own decisions/judgements about how to proceed and it

is the responsibility of IAMs to ensure that the information provided is in line with their own clients' circumstances with regard to any investment, legal, regulatory, tax or other consequences. No liability is accepted by EFG for any damages, losses or costs (whether direct, indirect or consequential) that may arise from any use of this document by the IAMs, their clients or any third parties.

If you have received this document from any affiliate or branch referred to below, please note the following:

Australia: This document has been prepared and issued by EFG Asset Management (UK) Limited, a private limited company with registered number 7389746 and with its registered office address at 116 Park Street, London W1K 6AP (telephone number +44 (0)20 7491 9111). EFG Asset Management (UK) Limited is regulated and authorized by the Financial Conduct Authority No. 536771. EFG Asset Management (UK) Limited is exempt from the requirement to hold an Australian financial services licence in respect of the financial services it provides to wholesale clients in Australia and is authorised and regulated by the Financial Conduct Authority of the United Kingdom (FCA Registration No. 536771) under the laws of the United Kingdom which differ from Australian laws.

ASIC Class Order CO 03/1099

EFG Asset Management (UK) Limited notifies you that it is relying on the Australian Securities & Investments Commission (ASIC) Class Order CO 03/1099 (Class Order) exemption (as extended in operation by ASIC Corporations (Repeal and Transitional Instrument 2016/396) for UK Financial Conduct Authority (FCA) regulated firms which exempts it from the requirement to hold an Australian financial services licence (RFSL) under the Corporations Act 2001 (Cth) (Corporations Act) in respect of the financial services we provide to you

UK Regulatory Requirements

The financial services that we provide to you are regulated by the FCA under the laws and regulatory requirements of the United Kingdom which are different to Australia. Consequently any offer or other documentation that you receive from us in the course of us providing financial services to you will be prepared in accordance with those laws and regulatory requirements. The UK regulatory requirements refer to legislation, rules enacted pursuant to the legislation and any other relevant policies or documents issued by the FCA.

Your Status as a Wholesale Client

In order that we may provide financial services to you, and for us to comply with the Class Order, you must be a 'wholesale client' within the meaning given by section 761G of the Corporations Act. Accordingly, by accepting any documentation from us prior to the commencement of or in the course of us providing financial services to you, you:

- · warrant to us that you are a 'wholesale client';
- \cdot agree to provide such information or evidence that we may request from time to time to confirm your status as a wholesale client;
- agree that we may cease providing financial services to you if you are no longer a wholesale client or do not provide us with information or evidence satisfactory to us to confirm your status as a wholesale client; and
- agree to notify us in writing within 5 business days if you cease to be a 'wholesale client' for the purposes of the financial services that we provide to you.

Bahamas: EFG Bank & Trust (Bahamas) Ltd. is licensed by the Securities Commission of the Bahamas pursuant to the Securities Industry Act, 2011 and Securities Industry Regulations, 2012 and is authorised to conduct securities business in and from The Bahamas including dealing in securities, arranging dealing in securities, managing securities and advising on securities. EFG Bank & Trust (Bahamas) Ltd. is also licensed by the Central Bank of The Bahamas pursuant to the Banks and Trust Companies Regulation Act, 2000 as a Bank and Trust company. Registered office: Goodman's Bay Corporate Centre West Bay Street and Sea View Drive, Nassau, The Bahamas.

Bahrain: EFG AG Bahrain is a branch of EFG Bank AG as licensed by the Central Bank of Bahrain (CBB) as Investment Business Firm Category 2 and is authorised to carry out the following activities: a) Dealing in financial instruments as agents; b) Arranging deals in financial instruments; c) Managing financial instruments; d) Advising on financial Instruments; and e) Operating a Collective Investment Undertaking. Registered address: EFG AG Bahrain Branch, Manama / Front Sea / Block 346 / Road 4626 / Building 1459 / Office 1401 / P O Box 11321 Manama - - Kingdom of Bahrain.

Cayman Islands: EFG Wealth Management (Cayman) Ltd, is licensed and regulated by the Cayman Islands Monetary Authority ("CIMA") to provide securities investment business or from within the Cayman Islands pursuant to the Securities Investment Business Law (as revised) of the Cayman Islands. Registered Office: Suite 3208, 9 Forum Lane, Camana Bay, Grand Cayman KY1-1003, Cayman Islands. EFG Bank AG, Cayman Branch, is licensed as a Class B Bank and regulated by CIMA. Registered Office: EFG Wealth Management (Cayman) Ltd., Suite 3208, 9 Forum Lane, Camana Bay, Grand Cayman KY1-1003, Cayman Islands.

Cyprus: EFG Cyprus Limited is an investment firm established in Cyprus with company No. HE408062, having its registered address at Kennedy 23, Globe House, 6th Floor, 1075, Nicosia, Cyprus. EFG Cyprus Limited is authorised and regulated by the Cyprus Securities and Exchange Commission (CySEC).

Dubai: EFG (Middle East) Limited is regulated by the DFSA. This material is intended "for professional clients only". Registered address: EFG (Middle East) Limited DIFC, Gate Precinct 5, 7th Floor PO Box 507245 - Dubai, UAE.

Greece: EFG Bank (Luxembourg) S.A., Athens Branch is a non-booking establishment of EFG Bank (Luxembourg) S.A. which is authorised to promote EFG Bank (Luxembourg) S.A.'s products and services based on the EU freedom of establishment pursuant to a license granted by the Luxembourg financial supervisory authority "CSSF". Registered address: 342 Kifisias Ave. & Ethnikis Antistaseos Str. - 154 51 N. Psychiko, General Commercial Registry no. 143057760001.

Hong Kong: The Hong Kong branch of EFG Bank AG is authorised as a licensed bank by the Hong Kong Monetary Authority pursuant to the Banking Ordinance (Cap. 155, Laws of Hong Kong) and is authorised to carry out Type 1 (dealing in securities), Type 4 (advising on securities) and Type 9 (asset management) regulated activity in Hong Kong. Registered address: EFG Bank AG, Hong Kong Branch, 18th floor, International Commerce Centre 1 Austin Road West - Kowloon, Hong Kong.

Liechtenstein: EFG Bank von Ernst AG is regulated by the Financial Market Authority Liechtenstein. Registered address: EFG Bank von Ernst AG Egertastrasse 10 - 9490 Vaduz, Liechtenstein.

Jersey: EFG Wealth Solutions (Jersey) Limited is regulated by the Jersey Financial Services Commission in the conduct of investment business under the Financial Services (Jersey) Law 1998.

Luxembourg: EFG Bank (Luxembourg) S.A. is authorised by the Ministry of Finance Luxembourg and supervised by the Commission de Surveillance du Secteur Financier (CSSF). EFG Bank (Luxembourg) S.A. is Member of the Deposit Guarantee Fund Luxembourg (F.G.D.L. - Fonds de Garantie des Dépôts Luxembourg) and Member of the Luxembourg Investor Compensation Scheme (S.I.I.L. - Système d'Indemnisation des Investisseurs Luxembourg). R.C.S. Luxembourg no. B113375. Registered address: EFG Bank (Luxembourg). S.A. - 56, Grand-Rue, L-1660 Luxembourg.

Monaco: EFG Bank (Monaco) SAM is a Monegasque Public Limited Company with a company regist- ration no. 90 \$ 02647 (Registre du Commerce et de l'Industrie de la Principauté de Monaco). EFG Bank (Monaco) SAM is a bank with financial activities authorised and regulated by the French Prudential Supervision and Resolution Authority and by the Monegasque Commission for the Control of Financial Activities. Registered address: EFG Bank (Monaco) SAM, Villa les Aigles, 15, avenue d'Ostende – BP 37 – 98001 Monaco (Principauté de Monaco), telephone: +377 93 15 11 11. The recipient of this document is perfectly fluent in English and waives the possibility to obtain a French version of this publication.

People's Republic of China ("PRC"): EFG Bank AG Shanghai Representative Office is approved by China Banking Regulatory Commission and registered with the Shanghai Administration for Industry and Commerce in accordance with the Regulations of the People's Republic of China for the Administration of Foreign-invested Banks and the related implementing rules. Registration No: 310000500424509. Registered address: Room 65T10, 65 F, Shanghai World Financial Center, No. 100, Century Avenue, Pudong New Area, Shanghai. The business scope of EFG Bank AG Shanghai Representative Office is limited to non-profit making activities only including liaison, market research and consultancy.

Portugal: EFG Bank (Luxembourg) S.A. - Sucursal em Portugal is authorised and supervised by Banco de Portugal (register 280) and the CMVM, the Portuguese securities market commission, (register 393) for the provision of financial advisory and reception and transmission of orders. EFG Bank (Luxembourg) S.A. - Sucursal em Portugal is a non-booking branch of EFG Bank (Luxembourg) S.A., a public limited liability company incorporated under the laws of the Grand Duchy of Luxembourg, authorised and supervised by the CSSF (Commission de Surveillance du Secteur Financier). Lisbon Head Office: Avenida da Liberdade n.º 131 - 6° Dto., 1250 - 140 Lisboa. Porto agency: Avenida da Boavista, n.º 1837 - Escritório 6.2, 4100-133 Porto. Companies Registry Number: 980649439.

Singapore: Singapore (UEN No. T03FC6371)) is licensed by the Monetary Authority of Singapore as a wholesale bank to conduct banking business and additionally carries on the regulated activities of dealing in capital markets products (securities, collective investment schemes, exchange-traded derivatives contracts, spot foreign exchange contracts for the purposes of leveraged foreign exchange trading and over-the counter derivatives contracts), fund management, product financing and provision of custodial services as an Exempt Capital Markets Services Entity under the Securities and Futures Act 2001 and of providing financial advisory services as an Exempt Financial Adviser under the Financial Advisers Act 2001 by advising others, either directly or through publications or writings, and whether in electronic, print or other form, and advising others by issuing or promulgating research analyses or research reports, whether in electronic, print or other form, concerning the following investment products: securities, collective investment schemes, exchange traded derivatives contracts, over-the counter derivatives contracts, spot foreign exchange contracts other than for the purposes of leveraged foreign exchange trading, spot foreign exchange contracts for the purposes of leveraged foreign exchange trading and structured deposits. Advice should be sought from a financial adviser regarding the suitability of the investment product, taking into account the specific invest- ment objectives financial situation or particular needs of the recipient, before the recipient makes a commitment to purchase the investment product. Please contact EFG Bank AG (Singapore Branch) in respect of any matters or queries arising from or in connection with this publication. Please note that EFG Bank AG (Singapore Branch), however, does not take legal responsibility for the contents of this publication EFG Bank AG (Singapore Branch) and EFG Asset Management (UK) Limited have put in place appropriate mechanisms and segregation policies to ensure the independence of EFG Asset Management (UK) Limited's research activities, and procedures to manage undue influence of issuers, institutional investors or other external parties on EFG Asset Management (UK) Limited. Other arrangements may be established where necessary to prevent conflicts of interest from arising. For Singapore, this document and the products mentioned herein are only intended for "accredited investors" and "institutional investors" within the meaning of the Securities and Futures Act 2001 and any rules made thereafter. This advertisement has not been reviewed by the Monetary Authority of Singapore. Registered address: EFG Bank AG, Singapore Branch 79 Robinson Road #18-01 Singapore 068897.

Switzerland: EFG Bank AG, Zurich, including its Geneva and Lugano branches, is authorised and regulated by the FINMA. Registered Office: EFG Bank AG, Bleicherweg 8, 8001 Zurich, Switzerland. Registered Swiss Branches: EFG Bank SA, 24 quai du Seujet, 1211 Geneva 2, and EFG Bank SA, Via Magatti 2, 6001 Lugano.

United Kingdom: EFG Private Bank Limited. If you are receiving this document from EFG Private Bank Limited, this is because you have an advisory agreement with EFG Private Bank Limited, and they have assessed the product(s) referred to in this document as being suitable for you. This document has been approved by EFG Private Bank Limited and is issued to you by EFG Private Bank Limited.

EFG Private Bank Limited is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority. EFG Private Bank Limited is a member of the London Stock Exchange. Registered company no. 2321802. Registered address: EFG Private Bank Limited, Park House, 116 Park Street, London W1K 6AP, United Kingdom, telephone +44 (0)20 7491 9111

USA: EFG Capital International Corp ("EFG Capital") is a U.S. Securities and Exchange Commission ("SEC") registered broker-dealer and member of the Financial Industry Regulatory Authority ("FINRA") and the Securities Investor Protection Corporation ("SIPC"). None of the SEC, FINRA or SIPC, have endorsed this document or the services and products provided by EFG Capital and its U.S. based affiliate, EFG Asset Management (Americas) Corp ("EFGAM Americas"), a registered SEC investment adviser. Securities products and brokerage services are provided by EFG Capital, and asset management services are provided by EFGAM Americas are affiliated by common ownership under EFG International AG and maintain mutually associated personnel. Registered address: 701 Brickell Avenue, Ninth Floor - FL 33131 Miami.

© EFG. All rights reserved