IMPAX Asset Management

Outlook 2023

Why testing times call for sustainable solutions



This document is a marketing communication.

IMPAX Asset Management

Impax Asset Management is a specialist asset manager focused on investing in the transition to a more sustainable global economy.

We believe that capital markets will be shaped profoundly by global sustainability challenges, particularly climate change, environmental pollution, natural resource constraints, demographic and human capital issues such as diversity, inclusion and gender equity.

These trends will drive growth for well-positioned companies and create risks for those unable or unwilling to adapt.

We invest in companies and assets that are well positioned to benefit from the shift to a more sustainable global economy.

Contributors

Charles French Deputy CIO, Listed Equities

Kirsteen Morrison Senior Portfolio Manager

Nathan Moser, CFA® Senior Portfolio Manager

Chris Dodwell Head of Policy and Advocacy

Julie Gorte, Ph.D SVP, Sustainable Investing

Charlie Donovan Senior Economic Advisor

Contents

Executive summary	1
Innovative companies with	
pricing power can shine	3
Lower costs, energy security	
and climate goals provide	
tailwinds for renewables	5
Despite progress on	
implementing climate policies,	0
more investment is needed	9
Rising costs of living	
highlight social challenges -	
and opportunities	13
Greater coordination between	
regulators will aid companies	
and investors' reporting against	
sustainability claims	15
Contributors	17
Important information	18



Executive summary

The macroeconomic backdrop in 2023 will be a real test for companies, with the impetus for authentic solutions to sustainability challenges being greater than ever.

Here, we share our perspective on key themes that will shape global markets in 2023 as the transition to a more sustainable economy continues.

1

Innovative companies with pricing power in growing niches can shine in inflationary, higher interest rate environments

2

The renewable transition will accelerate because it offers an energy system that is cheaper, cleaner and more secure

3

Despite progress on implementing climate policies ahead of COP27, policymakers must redouble efforts to attract private capital to achieve climate goals and adapt to unavoidable impacts

4

Rising costs of living create opportunities for companies whose products and services can solve persistent social challenges

5

Greater coordination between regulators will help both companies and investors reporting against sustainability claims

Innovative companies with pricing power can shine

Innovative companies with pricing power can shine

The unpleasant cocktail of elevated inflation, higher interest rates and lacklustre economic growth have graduated from risks facing global markets to reality. Tightening monetary policy may be a medicine for rising prices, but it will offer little support for a global economy which is forecast to grow by only 2.7% in 2023.¹

High inflation, driven by surging energy and food prices, has been a defining characteristic of 2022. Global consumer prices are forecast to rise by 8.8% overall in 2022, breaching double digits in much of the world.² While there are signs that inflation has peaked in many major economies, it may prove stickier and remain elevated, compared to the 2010s at least.

Unusually, the current economic slowdown is not overly driven by reduced demand, but instead by structural supply-side issues including labour shortages and the decoupling of China from global supply chains. The trend towards localisation of production might lead to higher resilience, but it is inherently less efficient and so is an inflationary force.

Facing these macroeconomic headwinds, our conviction is that investors should focus on identifying companies that are well-positioned to capitalise on structural growth opportunities. The transition to a more sustainable economy promises to reshape the global economy in a lower carbon, less resource-intensive and more inclusive mould. Innovation will upend many sectors in the process.

Among companies aligned with this secular trend, we expect those boasting greater pricing power – given the structure of markets they operate in, their market position, or products that cannot easily be substituted – to prove more resilient. This is because they will be better able to pass on rising costs to customers and maintain their profitability. Few companies are immune to rising input costs. which will crimp margins in the short term. Over the longer term, we believe the imperative to shift towards a more sustainable economic model creates vast opportunities for innovative business models, irrespective of the macroeconomic picture. We look at the healthcare sector as an example of where quality companies can continue to thrive, irrespective of the market direction, as companies can enhance their competitive advantage through product innovation. Demographic trends meanwhile are supportive. Ageing populations and the associated rise of chronic diseases create incentives for medical innovation that improves patient outcomes and curtails spiralling healthcare costs.

Looking at the state of global equities as we head into 2023, we believe investors' fears have been overdone in some areas, creating pockets of value. The market is pricing in a significant drop in earnings in the materials sector, for instance, yet certain specialist ingredient companies – whose shares were badly hit in 2022 amid fears that consumers will trade down from premium brands – appear much more resilient, in our view.

Despite the risk of a recession, bond investors have been buoyed by the prospect of falling US inflation and indications from the Federal Reserve that the magnitude of US interest rate rises in 2023 may be ratcheted down. Higher yields and relatively conservative corporate balance sheets are, in our view, encouraging factors for US fixed income investors. We believe more defensive sectors in the US corporate bond market will be better positioned to weather challenging market conditions in the new year.

We are braced for further volatility in 2023, not least because risk appetites appear fragile following the 2022 sell-off. There is also potential for a disconnect to open between investors' expectations and actual monetary and fiscal policy, which may continue to tighten as central bank and government borrower credibility remains fragile.

Higher short-term volatility can offer opportunities for active investors. By creating inefficiencies in markets, more attractive entry points for long-term investments can be created. Tempting as it might be to sit on the side-lines, waiting for certainty often comes at the cost of missed opportunities.

1 IMF, October 2022: World Economic Outlook

2 IMF, October 2022: World Economic Outlook



Lower costs, energy security and climate goals provide tailwinds for renewables

Lower costs, energy security and climate goals provide tailwinds for renewables

We expect a defining characteristic of 2023 to be the material expansion of investment in renewable electricity generation capacity. Renewables today can play a major role in resolving the challenges of energy costs and security, and materially help reduce carbon emissions.

Energy market upheaval and geopolitical tensions arising from the Russian invasion of Ukraine have demonstrated the political and economic risks intrinsically associated with fossil fuel import dependency. Disruption to the enormous westward flow of natural gas to Europe pushed up local spot and forward gas prices to all-time highs: futures linked to the Dutch TTF, Europe's benchmark wholesale gas price, surpassed €300 per megawatt hour (MWh) in August 2022 – a price equivalent to more than US\$500 a barrel of oil.³

While high prices are painful for households and businesses in the near-term, the energy shock only accelerates the long-term transition away from fossil fuels. Over the past decade or so, the costs of renewable generation have followed a steep downward trend. Even before accounting for the exceptionally high gas prices of 2022, the chart below illustrates how the economics of new onshore wind, offshore wind and solar capacity are now more attractive than those of natural gas.



Source: Impax calculations based on data from the International Renewable Energy Agency (2022), the IEA (2020) and Lazard (2021). Estimates are based on the IEA's methodology and assume a weighted average cost of capital of 7%. Estimates for combined-cycle gas turbine (CCGT) power assume natural gas prices ranging from €70/MWh to €130/MWh and an EU Emissions Trading System price of €80/tonne. For reference, the January 2023 TTF natural gas futures contract price, as at 5 December 2022, was €135/MWh.

3 Financial Times, 21 November 2022: Europe's gas traders and exchanges warn of futures cap risks

The pipeline of projects continues to expand and the IEA forecasts renewables to account for almost 95% of the increase in global electricity capacity to 2026.⁴

This reflects policy support as well as compelling economics. Climate goals set by national governments can only realistically be met by decarbonising the electricity sector. Several countries have already outlined their plans for 'net-zero power', including the UK. Swifter rollouts of renewable capacity are central to all scenarios that limit global temperature rises to 1.5°C.

The alignment of decarbonisation and energy security goals has spurred policy support across developed economies. The EU is supporting renewable deployment by accelerating permits for projects and introducing a presumption of overriding public interest for future planning considerations. There is major fiscal support too: the REPowerEU plan seeks to mobilise additional investments totalling more than €200bn to improve the EU's energy self-sufficiency and help achieve its climate goals. In the US, federal tax incentives totalling around US\$120bn will support the renewable energy sector as part of the Inflation Reduction Act passed in August 2022.

While fiscal boosts can be inflationary in the short-term, the addition of more low-cost, green electricity to grids will ultimately have a deflationary effect and reduce energy bills. Solar and wind energy are proven technologies, but technological advances in even these mature sectors are set to continue. There will be future improvements in efficiency creating opportunities for the replacement of older assets – a growing trend known as 'repowering'. Active investing allows us to rigorously analyse the renewable energy market, understand the economic value chain and make differentiated calls as to where opportunities are greatest. We believe renewable energy equipment makers are particularly well-placed to support the US and EU governments' aspirations for more clean energy. This includes makers of key components, such as gearboxes and blades for wind turbines, as well as wafers, cells and modules for solar panels.

Although less mature clean energy technologies in development have not reached the scale and price competitiveness of solar and wind, we believe there are selective opportunities for investors. In certain markets, they are already well-established. Norway, for example, is an ideal market for smallscale hydropower with deep fjords and high mountains making a moderately-sized hydropower station cost-effective.

Policy support will help foster other emerging clean technologies, not least in the US where investment tax credits worth billions of dollars are now available for the likes of green hydrogen and battery storage. We expect companies focused on products and facilities that store energy at either a grid or building level – including batteries and their components – and those focused on efficient backup power and uninterruptable power supply, to play increasingly prominent roles in new energy infrastructure.

4 IEA, 2021: Renewables 2021

Swifter rollouts of renewable capacity are central to all scenarios that limit global temperature rises to 1.5°C. Despite progress on implementing climate policies, more investment is needed

8

3

Despite progress on implementing climate policies, more investment is needed

Headlines from the COP27 climate summit in Egypt in November were mixed. While the announcement of a new fund for 'loss and damage' suffered by nations most vulnerable to the effects of climate change represented progress for many, the final agreement disappointed others by failing to address the widening gap between climate science and current climate policies or to commit to the phasing down of all fossil fuels.

Behind the scenes, governments have been rolling up their sleeves on implementing both their national commitments made under the Paris Agreement and new sectoral pledges made at COP26. In addition to national policies in the EU and US discussed above, encouraging progress has been made in other major economies: China's level of renewable deployment is on track to overshoot the target in its 14th Five-Year-Plan and India has set more ambitious targets to reduce energy intensity by 45% and increase non-fossil fuel generation to 50% by 2030.

On deforestation, a new Forests and Climate Leaders' Partnership was established which will meet twice a year to track action on the COP26 commitment to halt deforestation by 2030. Meanwhile the world's three largest rainforest nations – Brazil, Democratic Republic of Congo and Indonesia – launched a partnership to cooperate on forest preservation.



Source: Climate Action Tracker (2022). The CAT Thermometer. November 2022. Available at: climateactiontracker.org/global/ cat-thermometer. Copyright © 2022 by Climate Analytics and New Climate Institute. All rights reserved.

- 5 Real world action based on current policies
- 6 Based on 2030 NDC targets
- 7 Based on 2030 NDC targets, and submitted and binding long-term targets

8 Best-case scenario and assumes full implementations of all announced targets including net-zero targets, LTSs and NDCs

On coal phase-out, COP27 saw the expansion of the Just Energy Transition Partnerships which aims to replace coal-fired generation with renewable energy. Building on US\$8.5bn in earlier donor backing for South Africa's plan, US\$20bn of public and private financing has been pledged for retiring coal-fired plants in Indonesia, with plans afoot for Vietnam and Senegal.

Progress overall is not enough to get on track for 1.5°C, however. Climate Action Tracker estimates that the 2030 targets submitted to the UN would only limit global temperature rises to 2.4°C, reducing to 1.8°C in the most optimistic scenario if all net-zero goals and sectoral commitments were implemented in full (see chart on page 9).

We must prioritise closing not only the ambition gap - by setting more ambitious 2030 targets and long-term strategies - but also the implementation gap. That means developing and implementing targeted policies to drive further real-world progress and attract the necessary private capital. Countries' policies and actions so far fall short of implementing their current nationally determined contributions.

The COP27 summit – held in a year of extreme weather and natural disasters made more likely by climate change – highlighted how investments into climate adaptation must accelerate alongside efforts to mitigate future climate impacts by reducing GHG emissions.

In recognition of this, the Sharm-El-Sheikh Adaptation Agenda was launched at COP27 with the aim of catalysing action on adaptation and resilience by setting global targets for 2030 across five 'impact systems' - food and agriculture; water and nature; coastal and oceans; human settlements; and infrastructure - and two enabling solutions of planning and finance. The Agenda sets a target of mobilising US\$140bn to US\$300bn in public and private finance for adaptation and resilience by 2030, and a goal of spurring 2,000 of the world's largest companies to develop actionable adaptation plans. The latter closely aligns with the IIGCC's proposed Climate Resilient Investment Framework, to which Impax has contributed.

As governments look to close these ambition and implementation gaps, we believe that climate policy will continue to drive investment opportunities in clean energy, hard-to-abate sectors, energy efficiency and pollution control.

Energy use in buildings, which are ultimately responsible for almost two-fifths of global energyrelated emissions, is likely to receive particular attention given the burden of high energy prices on businesses and individuals.⁹

While new building materials and methods can reduce emissions from construction, existing stock will require retrofitting to improve their resilience and operational energy consumption. Equipment that can heat and cool buildings more efficiently will be key to aligning the built environment with net zero and adapting to a changing climate. Meanwhile, design software can simulate and improve the resilience of buildings, reducing waste in the construction process as well.

Despite the mixed outcomes of COP27, we believe that there will be additional opportunities in two sectors which have received comparatively little attention to date: food and agriculture, and water.

Agriculture and food security were prominent themes at COP27, making the front page of the UN cover decision for the first time. The global food system was again in focus at the international biodiversity negotiations (COP15) in Montreal this December. In Egypt, the UN Food and Agriculture Organization committed to develop a net-zero, nature-positive roadmap for the sector, which contributes almost one-fifth of global emissions, along the lines of the similar report for the energy sector prepared by the IEA.¹⁰ The food sector features heavily in the Sharm-El-Sheikh Adaptation Agenda with ambitious 2030 targets to increase yields, halve per capita food waste, grow markets in alternative proteins and increase consumption of fruit and vegetables. The delivery of these targets, as well as the goal of halting deforestation by 2030 and the outcomes of COP15, will throw up risks and opportunities for investors. We will be keeping a close eye on the sector during 2023 and beyond to identify potential winners and losers.

9 World Green Building Council, 2019: Bringing Embodied Carbon Upfront

10 Our World in Data, 2020: Emissions by sector

A spotlight was shone on water at COP27 as one of the sectors where early investment in adaptation and resilience-related solutions is needed. The summit saw the launch of the Action on Water Adaptation and Resilience (AWARe) Initiative aimed at stemming water loss and improving supply worldwide. Rising water scarcity will remain an important driver for businesses across the water value chain. Distribution and infrastructure businesses will play a key role in reducing leakage and energy use throughout distribution networks, as well as where water is used, directed in part by water-focused environmental consultants. Water efficiency will be an increasingly important area with more water-efficient processes set to gain market share across the economy, from making drugs to concrete. More investment will meanwhile be needed to improve the resilience of water supplies to climate change and in treatment processes needed to enable greater water reuse: countries like Israel, where 87% of water is reused, demonstrate what is possible.



Rising costs of living highlight social challenges – and opportunities

4

Rising costs of living highlight social challenges and opportunities

Household budgets across developed economies are being squeezed by prices rising at their fastest pace in more than three decades. Many, especially those renewing or taking out new mortgages, face significantly higher debt repayments in 2023 as central banks have raised interest rates to curb inflation.

Social safety nets and government support will cushion the impact for many. Longer term, though, public spending alone will not be enough to tackle the broad set of social challenges that are exacerbated by the rising cost of living – especially with the prospect of tighter government spending as part of efforts to consolidate public finances.

Vast investment is needed to meet the demands of ageing societies and to address persistent inequalities brought into sharp focus by the COVID-19 pandemic. We believe this will provide tailwinds for companies that are aligned with, and contribute to, the transition to a more sustainable and inclusive economy by meeting basic needs, broadening economic participation and improving quality of life.

1: Meeting basic needs

We identify growing opportunities for companies delivering essential services, from enabling access to clean water to running critical infrastructure like hospitals. Housing is a particular area of interest. Real estate investment trusts that specialise in under-served parts of the market, such as student lodging or affordable housing, can thrive by meeting growing demand.

New solutions to age-old challenges, often leveraging technological change, can create successful niches. As technological innovation accelerates in areas likes food service distribution and online food retail, so it does too in waste, where technologies including sorters, reversevending machines and anaerobic digesters all play growing roles in a more circular economy.

2: Broadening economic participation

We perceive opportunities for companies that can help broaden economic participation by enabling more people, especially those in marginalised groups, to gain access to the finance, education, jobs and information they need to achieve economic independence. With reduced labour mobility, opportunities to train and retrain populations for the industries of the future rise.

Catalysts for change are accelerating opportunities for well-positioned companies. Financial innovation can help more people gain access to the right financial products, enabling them to protect themselves in times of crisis and to save and borrow for their futures. Within education, digital technologies can facilitate more effective and democratic transferral of knowledge and skills remote learning becomes the social norm.

3: Improving quality of life

Companies whose products and services can contribute to improving people's quality of life are also presented with growing opportunity sets.

Within healthcare, for example, the combination of public spending deficits and ageing populations means there is a greater need for innovative solutions that can make the sector more efficient while widening access. The potential impact of disruptive healthcare technologies is illustrated by wearable technologies that can monitor key indicators like blood sugar and predictive analytics that can leverage vast data sets to improve drug development.

Quality of life extends beyond good health, of course, to include happiness and wellbeing. Here, companies that can meet evolving consumer preferences and contribute to enhanced wellbeing can tap into emerging trends such as personalised nutrition and sleep-enhancing products. Greater coordination between regulators will aid companies and investors' reporting against sustainability claims

5

Greater coordination between regulators will aid companies and investors' reporting against sustainability claims

Greenwashing is not a new phenomenon, but rarely before has it been in such a spotlight. 2022 witnessed the start of a global regulatory crackdown on misleading or misplaced sustainability-related claims made by companies and investment managers.

We welcome enhanced regulatory scrutiny of sustainability-related claims. It is essential, not only to protect the interests of investors, of course, but to preserve the integrity of our industry. This is important in the face of a politically partisan 'ESG backlash', particularly in the US, which has the potential to set back the redirection of capital markets towards investing in the sectoral transformations on which Impax focuses.

As part of their fiduciary duty to clients, investors must be able to consistently and accurately price risks and opportunities, considering all material factors. We believe this must include physical and transition climate risks.

In November, the US Department of Labor approved a new rule that explicitly recognises climate change, and other environmental social and governance issues, to be material in financial decision-making and proxy voting. This positive step should remove a potential obstacle to opportunities for bona fide sustainability-focused investment products in the US. In Europe, investor demand is strong. Demand for strategies categorised as Article 9 funds under the region's Sustainable Finance Disclosure Regulation (SFDR), for having 'a sustainable objective', remained resilient despite the global market downturn of 2022. Article 9 funds – which account for only 5% of European investment fund assets – garnered net inflows of €12.6 billion in the third quarter of 2022, according to Morningstar. By contrast, outflows from other products, including Article 8 funds which 'promote environmental and/or social characteristics', totalled €91 billion.

These inflows indicate the long-term conviction that many investors share in the opportunities arising from the transition to a more sustainable global economy. In 2023 we expect regulators to look more closely at definitions of 'sustainable investment' and scrutinise fund names to ensure they are not misleading. Greater alignment of fund labels between regions will facilitate the scaling of high-quality financial products and simplify reporting for investee companies and fund managers alike. Simplification within SFDR is likely given feedback on implementation challenges.

At Impax we will continue with our fund naming and 'beyond financial reporting' conventions to evidence that our funds are invested how our clients would expect them to be. In parallel, we will continue to engage with our investee companies and collaborate alongside peers during 2023 to improve the quantity and quality of decision-useful non-financial information that can be fed into investment analysis, and, ultimately, enable better pricing of sustainability risks and opportunities.

Conclusion

The transition to a more sustainable economy promises to reshape the global economy in a lower carbon, less resource-intensive and more inclusive mould. The fundamental long-term drivers of this transition are not only unchanged, but strengthened by the pressing need to mitigate and adapt to climate-related risks and to improve energy efficiency and security. The economic case for clean energy, for instance, has seldom been more compelling. ALL LLL

T

TT

As we look towards 2023, we believe that any volatility in global markets will create opportunities for active investors. Closer scrutiny of sustainability claims should meanwhile strengthen demand for investment products whose authenticity can be demonstrated. X

Contributors



Charles French Deputy CIO, Listed Equities

Charles joined Impax in 2022 as Deputy Chief Investment Officer of Listed Equities. Charles provides support and leadership in the development and growth of the Listed Equities business globally.



Chris Dodwell Head of Policy and Advocacy

Chris is a climate change and environmental policy expert with over 25 years' public and private sector experience. Chris is responsible for managing Impax's engagement in the development of policy issues and providing insights on policy to the firm's investment teams.



Kirsteen Morrison Senior Portfolio Manager

Kirsteen co-manages the Global Opportunities strategy and is an interim manager on the Asian Environmental and Asian Opportunities strategies. Kirsteen joined Impax in 2009.



Nathan Moser, CFA® Senior Portfolio Manager

Nathan is Senior Portfolio Manager of the US Small Cap strategy. Nathan joined Impax in 2008.



Julie Gorte, Ph.D SVP, Sustainable Investing

Julie oversees ESG-related research on prospective and current investments as well as the firm's shareholder engagement and public policy advocacy. Julie is also a member of the Impax Gender Analytics team.



Charlie Donovan Senior Economic Advisor

Charlie is a Senior Economic Advisor at Impax and Visiting Professor of Sustainable Finance at the Foster School of Business at the University of Washington. Charlie's role at Impax deepens the firm's expertise in understanding the opportunities arising from a global energy transition.

Editorial and Design: Adam Palin, Laura Brenden, Jarrod Gibbons and Adam Sinclair

CFA® is a registered trademark owned by CFA institute.



Outlook 2023 Why testing times call for sustainable solutions

Important information

Impax Asset Management Group plc includes Impax Asset Management Ltd, Impax Asset Management (AIFM) Ltd., Impax Asset Management Ireland Ltd, Impax Asset Management LLC, and Impax Asset Management (Hong Kong) Limited (together, "Impax"). Impax Asset Management Ltd, Impax Asset Management AIFM) Ltd and Impax Asset Management LLC are registered as investment advisers with the U.S. Securities and Exchange Commission ("SEC"), pursuant the Investment Advisers Act of 1940 ("Advisers Act"). Registration with the SEC does not imply a certain level of skill or training.

Copies of the most recently filed Form ADV for Impax and additional information about registered investment advisers is available through the Investment Adviser Public Disclosure website at www.adviserinfo.sec.gov.

The views, opinions, and forecasts included or expressed herein are as of the date indicated and are subject to change without notice. You should not assume that such information, views and forward-looking statements would remain the same after the date indicated.

The information presented herein is provided for general informational purposes only and is not intended to provide legal, tax, investment, or financial planning advice. It does not constitute an offer, invitation, solicitation, recommendation, or advice to buy or sell any securities, financial instruments, investments; to follow a particular investment strategy; to engage in any other transaction; or to engage Impax to provide investment advisory or other services.

Certain content (including data) contained within may include, or be based on, data obtained from statistical services, company reports or communications, or other third-party sources, that Impax believes are reliable. However, Impax has generally not verified this information where Impax believes the third-party source is reliable and, therefore, there is a risk that information from such third-party sources are inaccurate or incomplete. You should not rely on the information presented here as a basis for investment decisions.

IMPAX is a U.S. registered trademark of Impax Asset Management Group Plc.

IMPAX ASSET MANAGEMENT



in Impax Asset Management

@ImpaxAM

impaxam.com