



#### **Fast reading**

- The war in Ukraine has heightened security-of-supply concerns in the energy sector and among key hard and soft commodities
- The need for an energy transition away from fossil fuels is now more urgent than ever
- ESG investing continues to offer the best roadmap to both funding and achieving that transition

## Far from being a casualty of the war in Ukraine, ESG investing is the key to security in energy, food and commodities, says Eoin Murray, Head of Investment, Federated Hermes

The notion that one should never waste a good crisis, most commonly attributed to Winston Churchill, last got an airing during the pandemic to underline the importance of putting a green recovery at the heart of the policy response. But of the billions in stimulus measures, research suggests only 6% went directly towards easing the transition to new sources of energy and mitigating the damage already done to our planet1.

Setting the appalling humanitarian crisis aside, perhaps Russia's invasion of Ukraine offers us a second bite of the proverbial cherry? This time, national security concerns - rather than the imperatives of a global pandemic – are the driving force pushing us to reconsider our economic energy path.

# Energy: A wake-up call

It's in the field of energy that concerns over national security have elicited the most wide-ranging response, especially in Europe. In Germany – currently Europe's biggest importer of Russian gas – the ruling coalition has increased its commitment to renewable power, and is planning to build liquified natural gas (LNG) import terminals with mandated minimum levels of gas storage at the end of each season.

In the corporate world, too, oil and gas (O&G) majors have rushed to sever ties to Russian production – a move which must inevitably lead to financial write-downs and impairments.

On a longer-term view, governments around the world have committed to improving energy security, whether through de-electrifying transport or de-carbonizing power generation, with a focus on electrifying heating and cooling loads in particular.

The advances already made for wind and solar power, together with storage, on the back of a couple of decades of increased efficiencies and decreased costs, make the outlook for alternative, non-fossil energy sources even more compelling.

Recent research suggests the global oil intensity of GDP peaked in the 1970s<sup>2</sup>. This came hard on the heels of the oil crisis earlier in that decade, and it's no leap of imagination to believe we're now on the verge of a wholesale decarbonization that goes far

deeper than EV adoption and the substitution of renewables for fossil fuels. Even hard-to-abate sectors are unlikely to remain immune, including production of industrial metals, chemicals, fertiliser, and long-distance and heavy transport.

It may seem strange to consider that a military incursion has threatened us into action and for renewables to become thought of as representing 'freedom energy' - but it's clear that fossil fuels, long promoted as reliable and secure sources of energy, may in fact be the opposite. If Ukraine has taught us anything it's that they are at the mercy of unpredictable disruptions. Where looming climate catastrophe proved insufficient to wean us off the fossil fuel compunction, concerns over national security have turned out to be the necessary mobilising force.

# A new urgency

It's little wonder, then, that the energy transition - which previously had an expected timeline measured in decades is now viewed with a new urgency. The EU, for instance, has announced a plan for a faster transition, followed by the International Energy Authority (IEA). Germany has brought its previous target of deriving 100% of its energy from renewables by 2050 forward by some 15 years to 2035, and has earmarked \$220bn to fund the necessary industrial transformation by 2026.

#### China is getting in on the act as well, announcing plans to build

# 450GW of solar, wind and hydro in the Gobi and

But this change is not just taking place in Europe. California has increased its renewables target to 72% by 2032, and, on the east coast of the US, a record auction for offshore wind clearly demonstrated the way the power market is going. The US Bureau of Ocean Energy Management sold 7GW of leases off the coast of New Jersey and New York, netting a staggering \$4.4bn, nine times the previous record for offshore wind in the US. Contrast this to a recent sale of oil drilling rights in the Gulf of Mexico, which attracted bids of less than \$200m.

China is getting in on the act as well, announcing plans to build 450GW of solar, wind and hydro in the Gobi and other desert regions. It's also now targeting 30GW of battery storage by 2025 and 100GW by 2030, alongside 120GW of pumped hydro energy by the end of this decade, according to the head of the State Grid Corporation of China.

<sup>&</sup>lt;sup>1</sup> nature: 'G20's US\$14-trillion economic stimulus reneges on emissions pledges', 2 March 2022.

<sup>&</sup>lt;sup>2</sup> Columbia SIPA: 'Oil Intensity: The Curiously Steady Decline of Oil in GDP', 9 September 2021.

Short-term exigencies such as security and reliability of supply might drive us to some unwelcome choices in the short-term such as increased oil and gas storage capability - but there's little doubt we've been gifted a second chance to reflect on what a resilient and sustainable energy system might look like over the long-term.

Figure 1: Oil's long goodbye



Source: Columbia Energy Policy, 9 September 2021

This is not before time. The most recent report from the Intergovernmental Panel on Climate Change (IPCC), compiled by the world's leading climate scientists, warns starkly that the window for action to limit the most destructive impacts of climate change is 'rapidly closing'.

What further evidence do we need of a swiftly changing landscape than coal producer Peabody Energy, alongside two financial partners, recently announcing the creation of R3 Renewables? This is a joint venture to develop 3.3GW of solar power and 1.6GW of battery storage capacity on former coal mining sites. Repurposing land that's unlikely to be fit for much else, with strong infrastructure and links to the grid already in place, makes compelling sense. And this isn't about the deployment of new and largely untested technology – this is simply scaling up what we already have.

So, in the long term, the market turmoil and war in Ukraine will not derail the sustainable energy transition, it will accelerate it.

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In the short term, we expect natural gas imports from Russia to be scaled back by as much as 65% by the end of this year. In oil markets, Russia was struggling to find buyers at even a heavily discounted prices for its output - and that was before the US administration announced its import embargo.

While the shortfall will remain, EU policy can act to limit its impact on growth. A 12% drop in consumption in Europe alongside a hefty price rise could easily see the bill for natural gas rise by \$250bn in 2022, over 1.5% of EU GDP. This is not an insignificant sum. Completing a revised deal with Iran and unlocking spare capacity in US shale, Venezuela and OPEC, can all offset the supply shock – but Europe may still need to ration and apply fiscal cushions.

From a corporate perspective, the pull-out of Western firms from Russia suggests the business world may now feel comfortable leaving money on the table by withdrawing or at least temporarily suspending activities from countries and/or sectors they no longer feel are part of the necessary transition.

As a result, in the medium-term we expect energy investment in favour of the transition to accelerate, as this theme becomes more connected to national security. In particular, energy efficiency-focused investments could benefit from current high energy prices and expected re-investment into the sector.

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### A Green Deal for energy

But is a genuinely green new deal even feasible? For Western Europe, the energy portion of a transition is estimated to cost some \$6.2tn upfront, but pays for itself over time from energy sales. These costs include wind-water-solar (WWS), H2 generation, H2 storage and short- and long-distance transmission.

In terms of impact upon labour, this plan creates 2.9 million more long-term, full-time jobs than lost – and is projected to save 180,000 lives from air pollution each year. And we achieve the overall objective of eliminating European energy emissions from affecting global warming, principally by reducing end-use energy requirements by 59% and reducing private energy costs by 44% (from \$2.08tn to \$0.67tn each year). All told, the plan reduces energy, health, and climate costs by \$1.4, \$1.6, and \$2.7tn each year respectively, and reduces social energy costs by 89% (from \$6.39tn to \$0.67tn each year)3.

To understand what this means on a country basis, we're fortunate that a group of academics at Stanford University have done the heavy lifting for us, and worked out in detail what's required. If we take Germany as an example, we can see the long-term potential of the New Green Deal approach:

Figure 2: Proposed New Green Deal Energy mix for Germany by 2050

2050

projected energy mix



Onshore wind

41.1% Geothermal





Residential rooftop solar



Offshore wind

**1.4%** 



Hydroelectric



Solar plants

20.4%



Commercial & government rooftop solar

8.5%



Tidal turbines



Concentrating solar plants

0%



Wave devices

0.1%



40-Year Jobs Created (Number of jobs where a person is employed for 40 consecutive years)

Construction jobs:

265,467

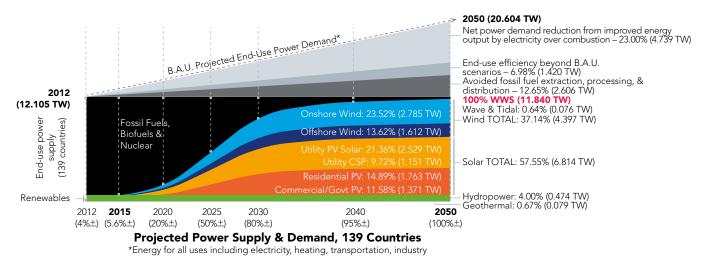


300, 128



The same team have also mapped out how the New Green Deal could work on a global scale:

Figure 3: Timeline for the transition:



Source: TimelineDetailed (stanford.edu)



#### Minerals - key vulnerabilities

According to the IEA's Sustainable Scenario, demand for key transition minerals, such as lithium, cobalt, nickel and graphite, is set to multiply four to five times in the next two decades as part of the energy transition. In the near-term, high concentrations of vanadium, titanium and nickel production in Russia in particular could increase the risk of shortages in these key minerals as sanctions bite. These are critical to building out the infrastructure associated with low-carbon energy generation and the upgrading of electricity grids.

Figure 4: Key minerals needed for the clean energy transition

	Energy Storage	Nuclear	Wind	Solar PV	Hydro	Geothermal	Carbon capture & storage	Solar Concentrated
Copper								
Nickel								
Chromium								
Molybdenum								
Manganese								
Zinc								
Lead								
Aluminium								
Titanium								
Silver								
Vanadium								
Cobalt								
Indium								
Iron								
Rare Earths								
Lithium								
Graphite								

Source: ASR Limited

Investors will be driven to consider alternative sources of supply to avoid dependencies on undesirable state actors. They will also reflect on the collective vulnerabilities of individual technologies to high risk minerals. Storage, nuclear and wind look most in danger, perhaps creating opportunities for alternatives.



#### Food: Bread and revolutions?

Much as with energy, the current crisis will also affect food supply around the world. The political consequences of higher food prices are likely to be felt most keenly in North Africa: the last major disruption in wheat exports to the region immediately preceded the Arab Spring. Wheat prices have already surged almost 50% compared to pre-crisis levels. The emotional link between bread prices and revolutions will remain a concern for all governments.

The Russian invasion of Ukraine has thus exacerbated a situation that was already deteriorating – the risks from climate change to global food security are critical and have been mounting, but until now have remained largely unrecognized by the global community.

Traditional approaches to managing trade risk, such as substitution and diversification, will be largely ineffective in a world facing accelerating climate change impacts simultaneously. The global food prices index is at its highest level ever – this is in effect a dry run for what is to come.

Climate change does not respect national boundaries. It affects food security in countries at all levels of development, but disproportionately so in low income, import-dependent ones. This is partly what makes adaptation to transboundary climate risk a matter of urgent public policy. Governments and the private sector will need to work together to achieve a just transition, and a more resilient and sustainable world.



#### **Defence: A need for nuance**

Russia's invasion of Ukraine has also exposed the risks inherent in taking a blanket approach to other ESG matters, including those crucial to national security such as defence. Last year, the EU was contemplating proposals to label the entire defence industry as socially harmful, but these appear to have been ditched in the final report delivered recently on what constitutes sustainable financial activities.

It would appear that common sense has prevailed with a view that the 'harmful' label be reserved for those activities that contravene international conventions on the production, use and deployment of weapons. Rightly, companies which do not abide by the relevant international treaties will be excluded, but this is limited to a mere handful of corporates. Other defence exposures must be treated on their financial merit.







#### Conclusion

As we seek to transition to a world operating on sustainable principles, it's been clear for some time that we can't expect investors to divest wholesale from sectors we don't like. Equally apparent is that there is no technological silver bullet that will help us set aside whole swathes of the market as un-investible. Instead, investors will need to engage with their holdings as active stewards and to accept their proportion of responsibility for our transition.

Of course, we are facing a systemic problem, one that investment managers cannot tackle alone; this is a problem national governments must also face. A strong legislative programme – enacted by governments – will create the right environment for capital reallocation and alternative corporate expenditure choices.

As yet, there's little academic evidence that allocating or subtracting capital from large, established corporates will affect their growth path – particularly those corporates with full access to capital markets. Equally, though, there is evidence that in small steps, investors can affect the behaviour of those same large corporates through a process of active engagement.

Now more than ever, investors have a vested economic interest in taking on advocates of the status quo and pushing governments to create the right conditions for a sustainable future.

This is what the current conflict raging in Eastern Europe has brought us. By defining the wealth of a country in a more qualitative way, and by incorporating the wellbeing of individuals and the environment, we can create positive change. It's a sad truth that a national security emergency will prove to be a greater mobilising force than a climate catastrophe, but we should not quibble – let's not waste this crisis.



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