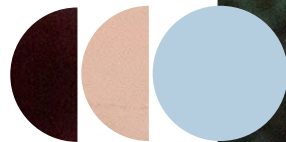


Energy Security vs Energy Transition?



OCTOBER 2022

Marketing communication



About the authors.

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Marouane started his career in 2015 at Edmond de Rothschild AM in Paris as an equity analyst on environment-related themes. Since 2018 he co-managed a Climate Solutions-focused global mandate and also an Energy Evolution-fund which focused on the ongoing climate related energy transition. In 2020, he became lead manager of the EdR Green New Deal-fund, a global equity climate fund.

Marouane holds a Master in Financial Markets and Risk Evaluation from the Toulouse School of Economics and acts there as an external lecturer on Sustainable Finance and ESG analysis. He is a CFA charter holder since 2018.

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Vincent joined Candriam in 2018 on the graduate rotation program where he successively worked with the Quantitative Equity team for one year, before joining the Emerging Market Debt team, and finally the Thematic Global Equity team in October 2020. Vincent graduated from the KU Leuven (KUL) and started his professional career with an internship at Degroof Petercam in Brussels.

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Energy Security vs Energy Transition?

Our unsustainably excessive consumption of natural resources is posing a real threat to a key factor that has so far allowed it to continue largely unchecked – our planet’s moderate climate. But is the need for urgent climate action actually threatened by governments’ increasing focus on energy security? Or will security concerns will, in fact, turn out to be the helpful push energy transition plans so much required, ask Marouane Bouchriha and Vincent Meuleman, managers of climate investment strategies at Candriam.

Climate stability has defined the Holocene, the current period in the history of our planet. The predictability, relative mildness and seasonal nature of our weather, which have persisted for many centuries, had made it possible for us to grow food on a large scale using agriculture. It also created an environment that has allowed the human civilisation to continue its uninterrupted and accelerating expansion. But we are reaching a tipping point.

The climate is already starting to undergo big changes, driven by global warming. We already see its manifestations on every continent. For example this summer, Europe has been struggling with the consequences of the so-called “wildfires”, China with droughts, and India and Pakistan with deadly heatwaves and floods.

Reducing our carbon footprint by changing the way we produce energy is at the very heart of global efforts to stop climate change. And yet at a time when urgent progress needs to be made, consumers face a difficult reality that supposedly puts a question mark over energy transition:

- Oil prices have soared from the COVID-19 lows to new record highs after Russia invaded Ukraine
- Europe is grasping for gas wherever it can, which has also impacted Asian and US markets
- Gasoline prices suffered from the lack of refining capacity
- Even coal, that many hoped it had become a commodity of the past, is staging a comeback with record prices and project restarts in Germany and China

The challenging energy environment is having far-reaching consequences across other sectors that many have not been expecting. For example, fertiliser production is being halted in Europe because of the high gas prices, as ammonia is produced mostly from natural gas. For far too long, Europe has been overdependent on Russian gas for its power needs, and a move away from that is now affecting heavy industries in Europe - from aluminium smelters to sugar refineries. Even beer production, which requires industrial CO₂, a by-product of ammonia production, is threatened¹.

Given this challenging environment, it will be a fair question to ask - how is it that the same governments that have been vilifying fossil fuels are signing contracts across the globe to ensure supply? Does it mean that the much-needed energy transition is to blame for the current energy crisis and that the two are incompatible?



A black

SWAN

A black swan or a preview of what is to come?

In 2021, fossil fuels made up 82% of global energy supply, with oil the largest source, followed by coal and then natural gas. Wind and solar made up less than 5%.² This means that we are still years away from transitioning our economies and we cannot just expect that our fossil fuel consumption will decrease just by curtailing investment into the old energy industry as Europe has been doing (see our quote from the recent IEA report).



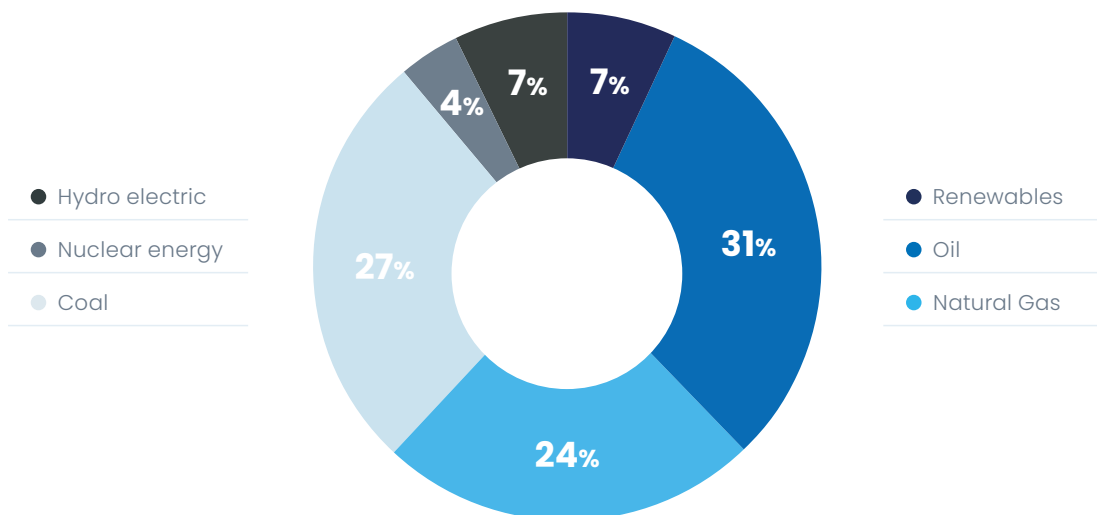
**We are still
years away from
transitioning our
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The current energy crisis is due to a confluence of rare events, with the war in Ukraine having a significant impact on energy flows into Europe. Right now, when demand is accelerating, other factors around hydro and coal production have also come into play, shining a light on supply-chain and geopolitical vulnerabilities. They serve as a cautionary tale of potential future energy market volatility that can be triggered by rapid simultaneous shifts on the supply and demand sides of the global energy landscape.

We should not forget also that climate will become increasingly more volatile, and considerably more so in a case of an increasingly disorderly energy transition. That will inevitably have an impact on energy supplies. Even recently, the cold snap in Texas led to a shutdown in gas production, the drought in Brazil depleted hydropower reservoir levels and the flooding of Chinese coal mines exacerbated shortages.

Figure 1:
Global Energy Supply



Source: BP, IEA, 2021³



Simply curtailing investment in fossil fuel supply in line with the Net Zero Emissions Scenario will not lead to the long-term emissions reductions and energy transition objectives of this scenario. Higher prices would trigger some reductions in demand, but they tend to do so in an undifferentiated manner and most negatively impact lower-income households. This can lead to social backlashes and short-term policy responses that are not aligned with longer-term emissions reduction, security and affordability objectives. To achieve sustained and deep reductions in emissions while reducing future risks of tight markets, policy makers need to set stronger targets and send stronger signals that they will reduce fossil fuel demand.

– Net Zero by 2050: A Roadmap for the Global Energy Sector” International Energy Agency, May 2022.



Fossil fuel dependency is at the heart of energy insecurity.

For Europe, the observation is stark: EU countries have no influence on the price of everything it imports, and they are structurally and increasingly dependent on external supplies of fossil fuels (up to 97% for oil, 44% for coal and 90% for gas)⁴. In that respect, Asia is in a slightly “better” position thanks to coal (the fossil fuel with the worst carbon footprint⁵), but the region is highly dependent on imported oil and gas.

The current dependency on fossil fuels, aside from the climate change impact, is clearly putting most of the globe at the mercy of a few autocracies, with five countries holding more than 50% of the global oil reserves.⁶

There is also the ballooning cost of fossil fuels. Based on data from the IEA, the total energy bill paid by the world’s consumers is likely to exceed USD10 trillion for the first time in 2022, or just over 10% of global GDP. Those are levels that not only depress growth but could put in danger the social contract in several parts of the world.

Germany can afford the expense of running on imported liquefied natural gas (LNG) but the rest of the world cannot compete for cargoes. Argentina has switched some of its electrical production to diesel because of the lack of natural gas but this is now causing shortages for farmers who need motor fuel. This is the kind of a trade-off that countries are starting to face and high commodity price volatility will only make it worse.

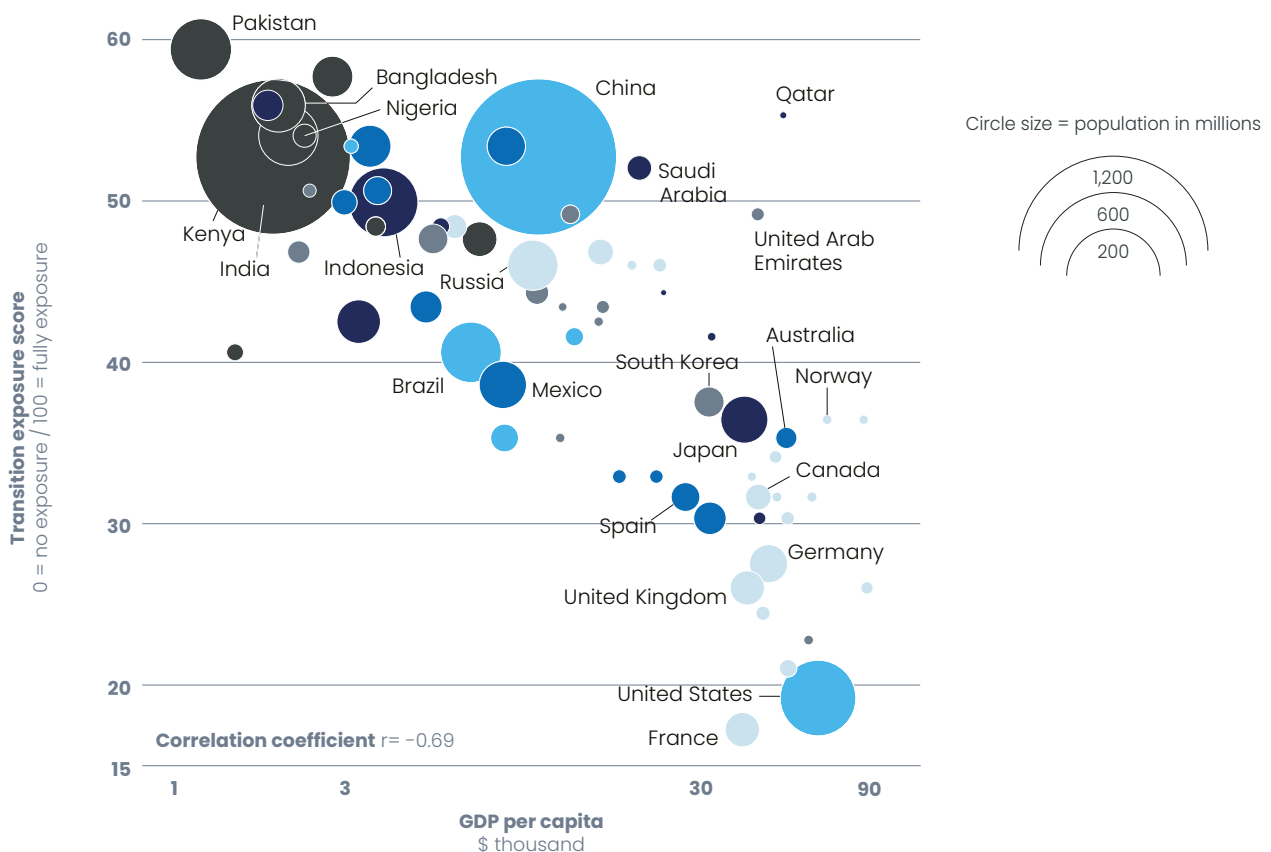
“The picture is bleak, with some of the poorest countries worst hit...”

...that is how McKinsey & Co, summarised the work of different institutions about the intensity of both energy transition and physical risks:

Figure 2:

Archetype of physical risk through transition exposure vs GDP per capita per country

- Significantly hotter and more humid
- Hotter and more humid
- Hotter
- Increased water stress
- Diverse climate
- Lower risk



Source: McKinsey & Co, 2022.⁷

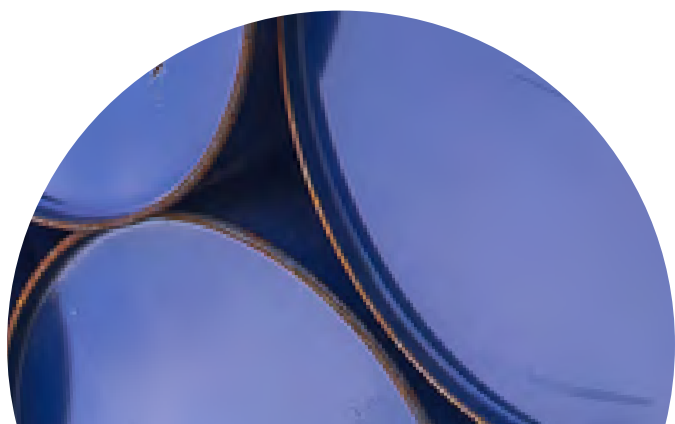
The current commodity environment and geopolitical tensions have a good parallel in history with the 1970s. The oil crisis pushed countries to adjust drastically with impressive improvements in industrial energy efficiency and the development of alternatives. For example, the breakthroughs in solar energy were driven by US research spending in response to the oil crisis⁸.

A “once-in-a-generation” investment opportunity.

We are convinced that the current high prices of fossil fuels, their volatility and the politisation of energy are all positive drivers for decarbonisation:

-First the positive impact in terms of political support because this geopolitical crisis has linked the energy transition to energy independence. In Europe, the Repower EU plan announced by the European commission is a good example. It adds to already ambitious objectives for the European Union to accelerate the deployment of renewables and the phase out of fossil fuels. The REPowerEU package can be broken down into four main areas: energy savings, diversifying energy supplies, accelerating the energy transition, and making smart investments⁹. On investments, it includes increasing the EU’s legally binding commitment to ensuring renewable energy to 45% of its overall energy supply by 2030 (up from the previous 40% target), and a new commitment on solar energy.

-Then the substitution effect resulting from higher for longer and more volatile prices for fossil fuels, which is also beneficial to green alternatives, whether energy efficiency or green energies.



How can America benefit from the US Climate Bill (rebranded the “Inflation Reduction Act”)?

- Almost USD400 bn¹⁰ of new spending across clean technologies
- Investments in renewables and electrification of the economy make economic sense
- Present a cheaper alternative to expensive fossil fuels
- May help reduce energy inflation over the long term

We believe that for investors this is a generational investment opportunity: over 80% of the global economy has committed to achieving carbon neutrality between 2050 and 2060¹¹, yet there is still a huge investment gap between what is done and what is needed. These ambitious goals can only be achieved if USD3 trillion per year is invested in energy transition¹². That's three times more than what's being invested today, despite all the headlines.

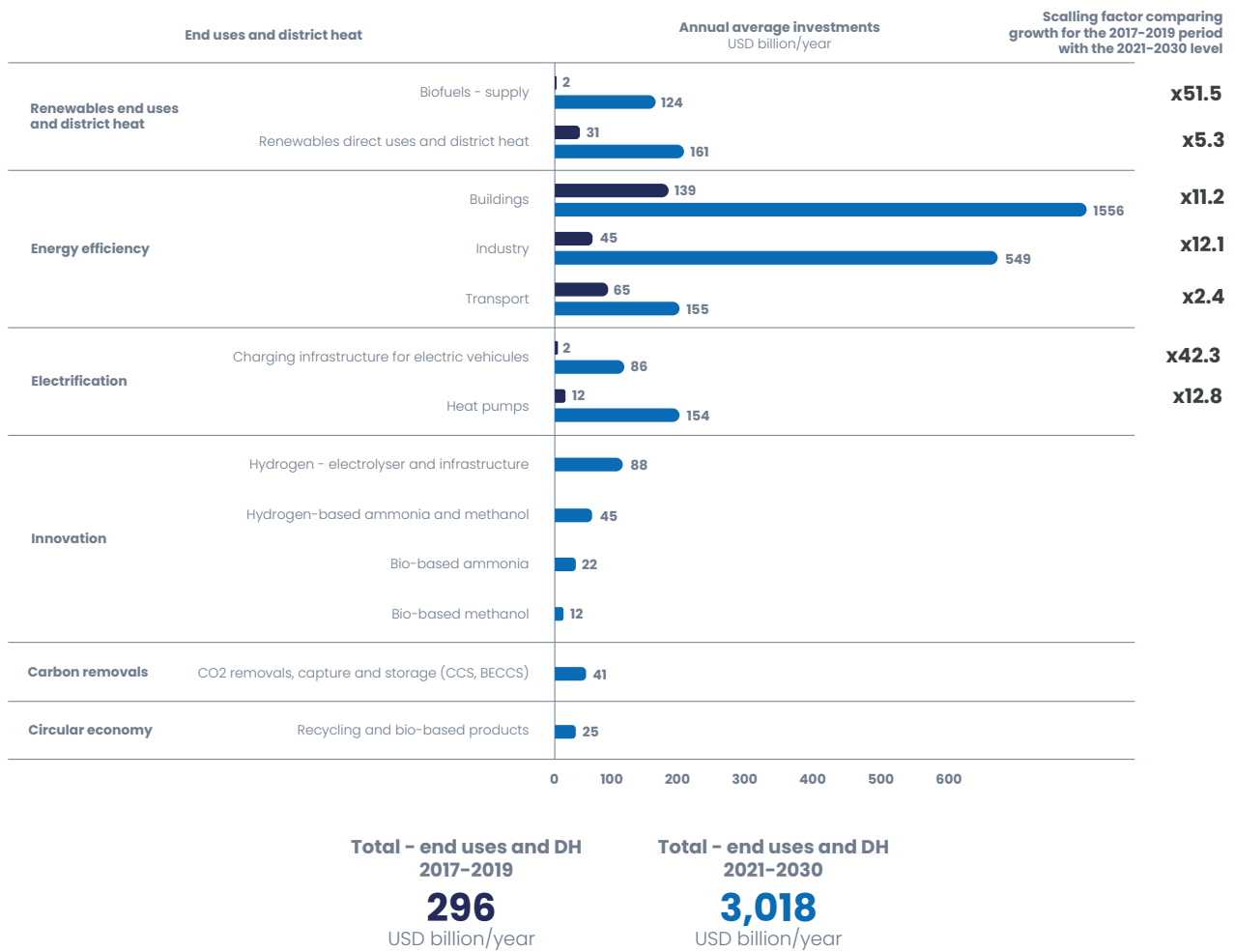
The IEA estimates that we currently have all the necessary technologies to drive the transition till 2030 and the biggest contributor among them is energy efficiency. We tend to forget it, but the **greenest energy is the one that we do not consume.**

The International Renewable Energy Agency (Irena), has done some great work in framing the net zero investments by technology. The biggest gap shown by their work is actually in how we use energy more efficiently, whether in transport, industrial processes or heating.

The good news is that renewables and energy efficiency will clearly benefit the most from the current high energy prices because the return on investment is inflated by the energy cost. An investment into a heat pump investment, for example, used to require a 10-year payback period. Now it is down to 2 years in some countries, and can even pay for itself through subsidies if you're in France or Italy.¹³

Figure 3:
World Energy Transition

● Historical, pre-Covid investments, 2017-2019
● 1.5°C Scenario investments, 2021-2030



Source: IRENA, 2022, World Energy Transitions Outlook: 1.5°C Pathway (irena.org)¹⁴

More than ever, energy policy is under scrutiny. The world needs energy that is clean but also secure and affordable. The challenge of providing an energy mix meeting these requirements is a once-in-a-generation opportunity for investors. How energy is provided, saved, and consumed could well define capital markets for the next decade.

To be followed...

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