Disruption | Fund

23 Dec 2020

"Normal is an illusion. What is normal for the spider is chaos for the fly."

—Mortitia Addams, The Addams Family, 1966

Stepping back outside

Sunset 2020. A vaccine in the mail and a prophylactic Christmas on the horizon. Can I step outside for a bit? Buy a box of chocolates, slip into some elastane leggings and pretend to look for stuff. Move over WWF, I'm saving the department store. Anything to get out. Or is that me running back home. Almost a year now, working, playing, chatting, dating, exercising, meditating through apps. My digital avatar feels so normal.

Will we ever live the same again?

In their year-end analysis of meta data, *Pinterest Predicts* uses digital "pin" activity to predict future consumer behaviour trends. Pinterest visits are more intentional, last longer and convert to more real purchases; they are also considered more predictive than the snapshot views of Adobe Digital Insights or Google Trends. Home alone seems like a trend.

Top Pinterest 2020 vs 2019 "pins" surges:

1.	*Laptop wallpaper*	*+30x y/y*
2.	*Indie nails*	*+21x*
3.	*Persian calligraphy*	*+20x*
4.	*Sublimation for beginners*	*+10x*
5.	*Basque cheesecake*	*+10x*
6.	*Neon room*	*+8x*
7.	*Dream vacation*	*+7x*
8.	*Home library design*	*+7x*
9.	*Computer gaming room*	*+6x*
10.	*Zodiac sign facts*	*+6x*

Top new buzzwords:

- *Cloffice* : "close the door please"; closed space returns to the office
- *Athflow* : athleisure tight sporty casual-wear makes way for wide body clothes
- *Getaway car* : car date nights & drive-in cinemas are hot
- *Japandi* : Japan meets Scandinavian minimalist design
- *Skinimalism* : move over crème de la crème ; welcome skin yoga

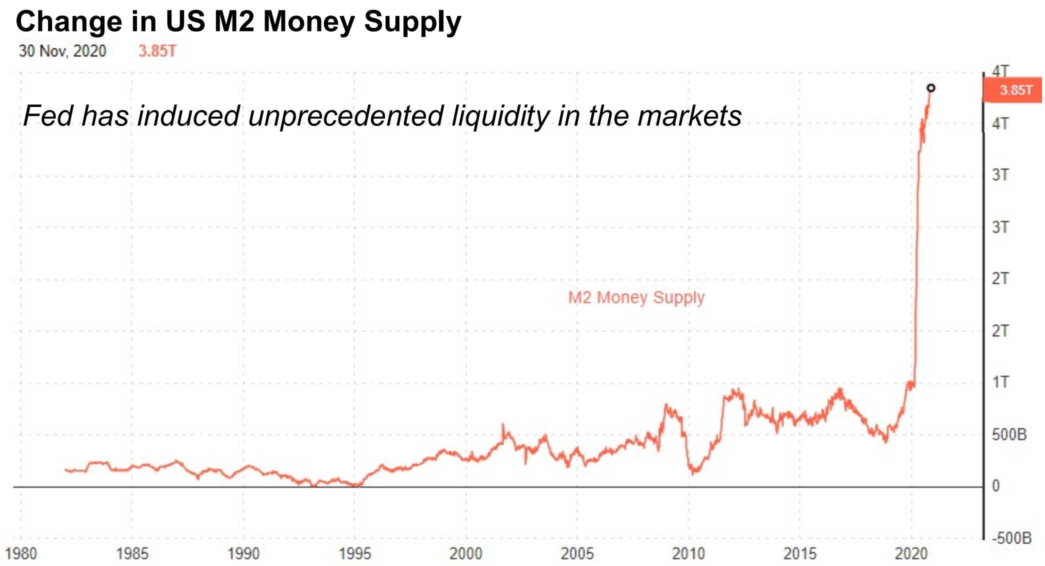
These top "pins" and themes aren't just lockdown monsters, they point to homebound, indoor and introspective lifestyles. An undercurrent of value shifts towards **Home, Health, Nature, Hobbies, Beauty, Simplicity, and Self.** A blend of 1950s suburban nesting fantasies remastered with the testosterone and junk food left out.

2021 is looking so post-war

Harmony and easy money

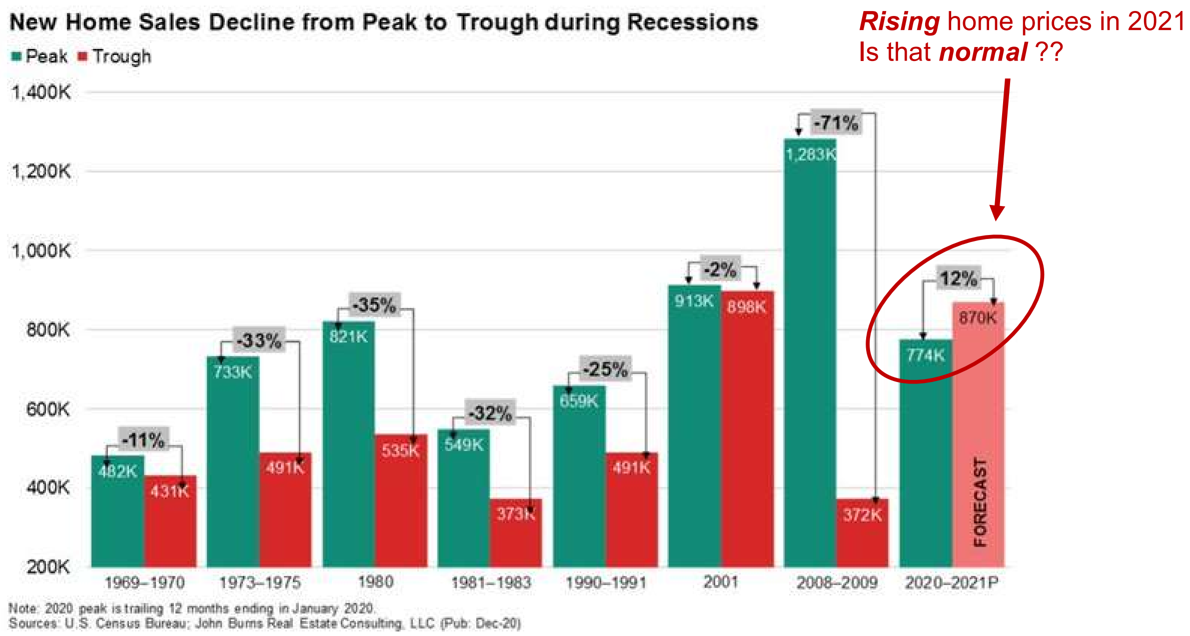
If most recessions begin with the bursting of a credit bubble of some sort, then surely 2020 was different. Commercial real estate in 1992, telecom in 2000, sub-prime in 2009, oil & gas in 2014, all suffered from excess credit and oversupply. This year, no bubble burst, no savings got wiped out. **In 2Q20 the world *instantly switched* to staying home, living digitally as well as talking, voting and buying green.** This dramatic change is crushing past economic models and accelerating the future.

2021 is in this sense looking like a post war economy built on a cure, hope, relief, optimism and enormous stimulus.



Source : https://www.grufity.com/historical-data-chart-graph/FRBDATARWL

We are all the more optimistic that, combined with stimulus and a generationally high 15%+ savings rate comes a never-seen-before sub-3% US 30 year mortgage rate. The CEO of leading US homebuilder Toll Brothers recently suggested home demand is at a 30 year high, with inventories at a record low 2.5 months (FT). Indeed, **what kind of recession shows a +12% y/y increase in new home sales?**



The 2021 peace dividend

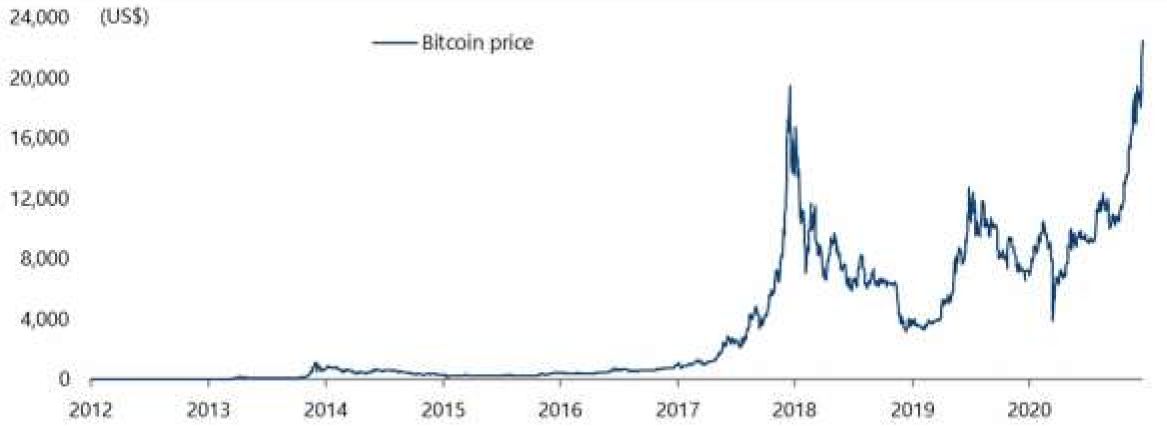
We expect record money supply + record savings + record mortgage rates = GDP binge. A post-Covid "peace dividend" awaits us, with a surge in optimism driving us to new consumer values and behavioral paradigms. We think change is now. EVs, hydrogen power, recyclable plastics, gene therapy, microbiome healthcare, all join the list as Cloud, Apps, eCommerce, Payments and the digital sphere continues to grow.

Bitcoin turns to gold

As evidenced by Softbank's "Nasdaq whale" trades in the summer of 2020, big investors don't always exercise more caution. And so we read that following Square and PayPal's adoption of Bitcoin for trading and eCommerce settling, some major institutions are buying Bitcoins as a hedge against excess monetary expansion and fiat currency debasing. As predicted by the early adopters, they are using Bitcoin as digital gold. Hedge fund star Allan Howard has a $1b position (Bloomberg News). In a recent note, market veteran and gold bug strategist Chris Wood of Jefferies moved to recommend Bitcoin to pension advisors and wealth managers. Bitcoin is still volatile, but it's also now considered fully investible.

Unlike equity investments, Bitcoin can only gain in value the more people believe in it and hold it.

In the digital realm, uniqueness is priceless.



We think the Digital economy has its own currency: Bitcoin.

Separately, we think Bitcoin is to blockchains what email is to the internet: a highly useful but still rudimentary application. **The future of the Ethereum blockchain and its disruptive impact on banks and payments is dramatically underestimated**. In their most recent annual meeting, Andreesen Horowitz's Ben Horowitz suggested that among their 5 verticals of expertise, blockchains/cryptos would be the most transformative and bring the greatest rewards in the new decade. Near term the killer app is likely to be DeFi (Decentralized Finance = using smart contracts to disrupt futures, forwards, and various interest-bearing money market funds.

DF focuses not simply on major disruptions but on **"investible" disruptions**. Our approach is therefore limited to equity-linked exposure.

DF owns some indirect exposure to Bitcoin:

- ***Grayscale Bitcoin Trust.; Square*** (50% of 3Q20 revs from crypto trading); ***PayPal*** (recently launched crypto trading and processing; not yet meaningful)
- Watch list : ***Grayscale Ethereum Trust, Diginex, Silvergate Capital***
- Private company watch list : ***Coinbase***

Cloud Infra, Apps & Services

Investment in the Cloud continues unabated. After a decade of breakaway leadership at AWS, Azure and increasingly Google, we find companies are fast embracing an all-Cloud infrastructure, often bypassing the on-premise/off-premise hybrid step in the rush to achieve low fault and high scalability. But Big-3 vendor lock-in is a rising issue. A second generation of Cloud innovators is offering the optionality of multivendor, multi-platform, almost multi-modal back-end.

Invisible to most, Zscaler, CrowdStrike, Twilio, Snowflake, MongoDB, Elastic continue to see accelerating revenue growth driven by still rising “dollar net retention”, or as the CEO of Snowflake recently put it: data flow priced like gas at the pump. 100% scalable; 100% metered pricing.

The recent uncovering of the Solar Winds Orion hack is labelled labelled in both the FT and WSJ as the biggest cyberhack of the last 20 years. 400 out the Fortune 500 companies use Orion and could be compromised. Private company Expanse, recently acquired by Palo Alto Networks could see its contribution significantly accelerated by this new crisis. Solar Winds chose CrowdStrike, which we own, to repair all their endopoint vulnerabilities.

DF owns Cloud Infrastructure Software, Services and Semis, grouped here across all verticals:

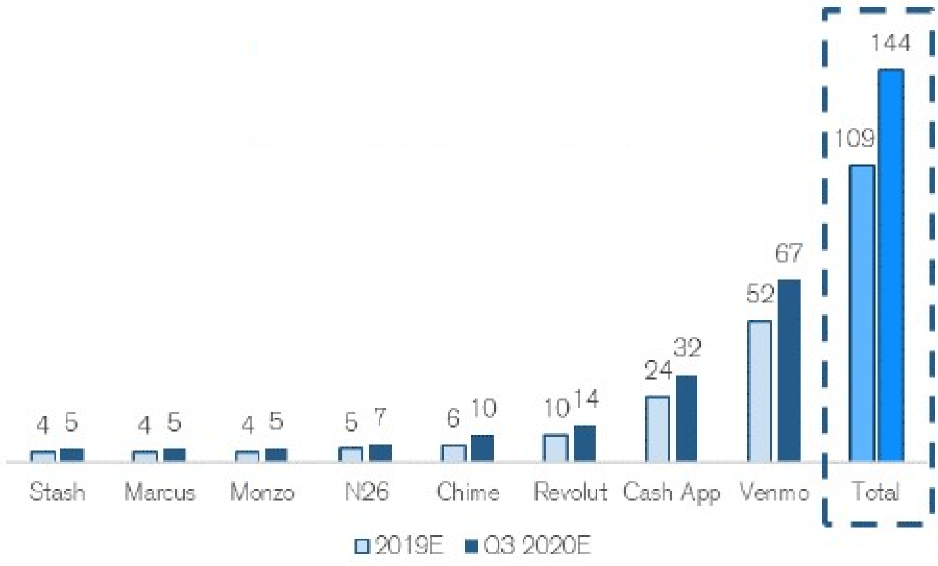
- Cloud : ***Twilio, CrowdStrike, Zscaler***
- Semis: ***Nvidia, AMD, ASML, SOITEC***
- Watch list: ***Agora, Bill.com, BigCommerce, Salesforce, Splunk, Elastic, Solar Winds, MongoDB, Snowflake, Kalray, PaloAlto Networks, Palantir, CyberArk, Wallix, Teanble, Rapid7, CyberArk***
- Private company watch: ***Expanse, Bitglass, Tuya***

Digital wallets surge

Behind every eCommerce transaction is a payment decision: manually enter 12 digits from Visa/MC and a 3-digit cryptogram followed by multifactor authentication… or click on PayPal, Square Cash, ApplePay. We continue to believe that **what makes a digital wallet powerful is its ability to harness network effects from mass user adoption**. We previously discussed the China playbook for US and European payments. Ramping P2P app downloads remains key for all the Neobanks, led by Revolut, Square and PayPal to achieve dominance and challenge the banks.

Neobank user growth ytd

8 of the top Neobanks added 35m users ytd in 2020 (Source: Credit Suisse)



In the chart below, 3 companies stand out for their particularly **powerful post-Covid recovery,** driven by 100% digital payments and a leading wallet offering: **PayPal, Square and Lightspeed POS**, all DF core holdings.

2020 revenue recovery as percent of 2019
JPMorgan estimates for organic growth

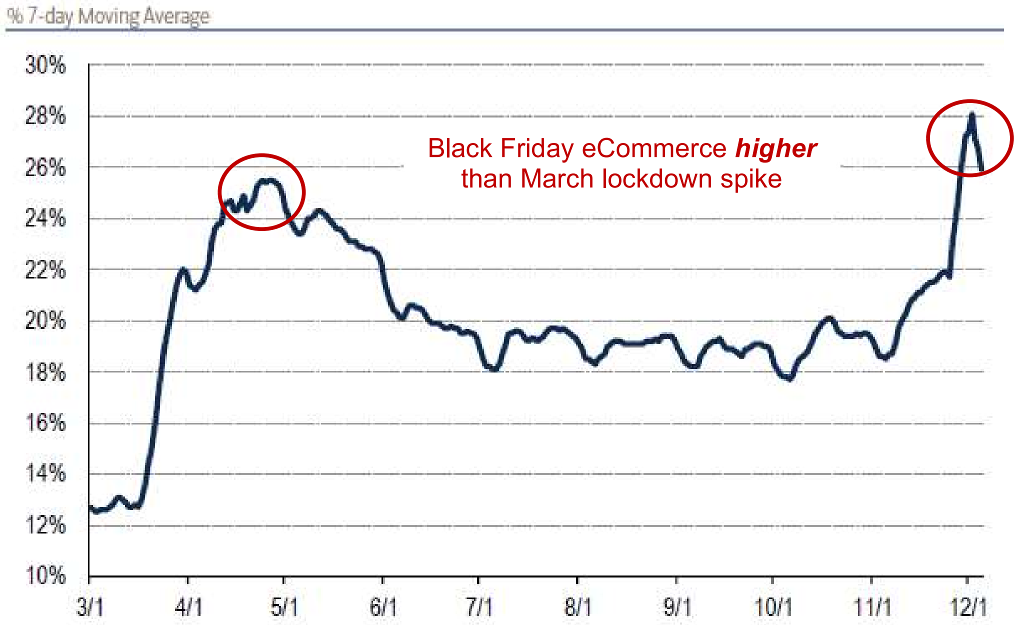
DF owns Digital Wallet companies:

- ***PayPal, Square***
- Watch list : ***Alibaba/Ant Financial, Facebook/WhatsApp India, PagSeguro Digital***
- Note that our top picks in eCommerce mentioned above have a successful digital payments and wallet offering : ***MercadoLibre, Sea Ltd, Shopify***

eCommerce, Digital Apps & Payment platforms

How much of the Covid surge in eCommerce is here to stay? How much higher can we go? Will the holidays bring yet more share shift from Physical to Digital? A good place to look is in one of America's biggest credit/debit card issuer's data. Bank of America's "card not present" spending data for November tells the full story: **online retail penetration was higher on Black Friday than at any moment during March/April lockdowns.**

Online Retail spend as % of total card spend based on BoA aggregated credit & debit card data



Source: BoA; online & mobile defined as "card not present" transactions

DF owns a combination of eCommerce, TaaS, eLogistics and eProperty plays as well as several integrated marketplace/fintech enablers, to capture some of the largest TAMs. Subscription and advertising based New Media also features here.

- ***Mercadolibre, Sea Ltd, PayPal, Square, Snap, Uber, Amazon, Adyen, Zillow, Lightspeed POS, Teladoc, Veeva, Kahoot!*** added : ***Pinterest;*** sold : ***CD Projekt***
- Watch list : ***Shopify, Zalando, Ocado, Alibaba/Ant, StoneCo, Opendoor, Redfin, Delivery Hero, Just Eat Takeaway, Zur Rose Group, Jumia, Netflix, Alphabet, Trade Desk, Ubisoft, Paradox, Roku, Stillfront, nCino, Lemonade, Sprout Social, Amwell, Adobe, Zoom Video, Chegg, Anaplan, Paycom, Asana***
- Sold recently : ***Adyen, CD Projekt***
- Private company watch*: **Freshly, Hinge Health, Prose, NA-KD, Ollie, Job and Talent, Rex Homes***

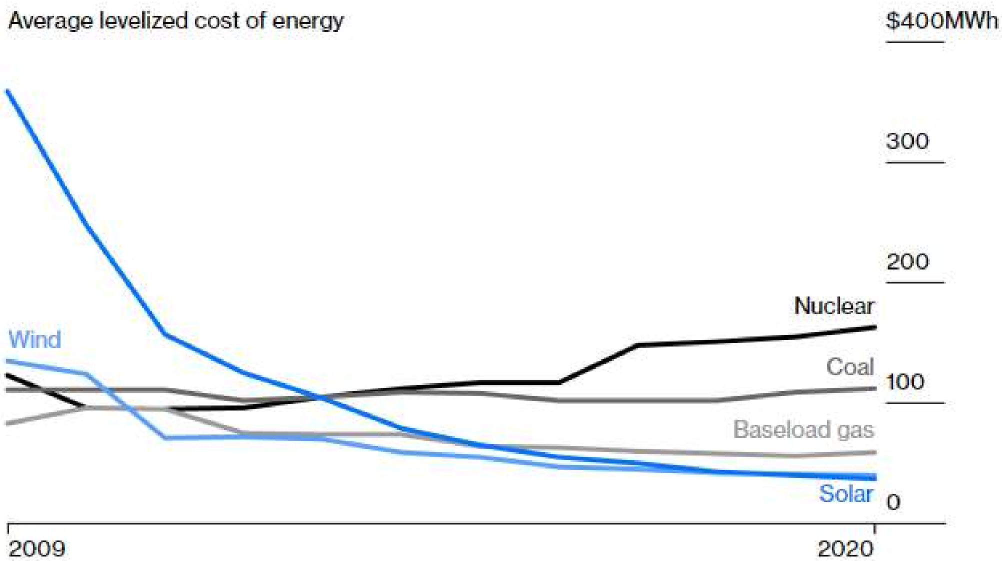
Clean Tech & Mobility

Our confidence is growing that Clean Tech is finally likely to deliver on a **20-year-old promise of pushing out fossil fuels** from the primary to a secondary role in the energy mix. Additionally, for investors, the high level of **public policy support and cyclical sensitivity suggests this will be a great stock market theme in 2021**. The sector is highly speculative and valuations are high, but aggregate Clean Tech market cap is still small compared to its disrupted target: the energy and transport industries. Using iShare data, Clean Tech (wind, solar, hydrogen) market cap is about 18% of Energy (oil & gas); JPMorgan research suggests a 30%. Clean Tech is still searching for a good definition given it challenges not just Oil & Gas but Utilities, Powergen, Chemicals, Autos, Packaging and more. Decarbonizing the global economy is after a radical challenge that will impact all industries, including the voraciously energy intensive Tech sector. With real capex, there is plenty of upside.

Hydrogen Is a Trillion Dollar Bet on the Future

Hydrogen is burning hot. As we noted since the summer, the pandemic dramatically accelerated Clean Tech. Zero-emission electricity is closer than ever. Perhaps 10 years away, maybe less. The acceleration of 'net zero' emission policies, renewable energy and falling electrolyser costs are supporting a green hydrogen revolution. As described by BoA's latest Renewable Outlook 2021: *"Whilst a $2.5tn pa market by 2050 is projected, **the energy transition has accelerated since Sept** […] countries accounting for >70% Global GDP now have national hydrogen roadmaps, including >20gw electrolyser projects announced in Europe."*

The #1 challenge is to build zero-carbon electricity generation to then produce green hydrogen. Wind and solar are now the lowest cost source of energy in approximately 70% of the world (BNEF estimate). Low-cost batteries are layering into utility-scale wind and solar for reliability, but capacity remains below 15% of total need. We have 10 years to build a competitive zero-carbon electric powergen complex. Hydrogen capex is rising everywhere. In addition, distributed grid solutions are helping intermittent, baseload and storage resources to coexist and lower waste.



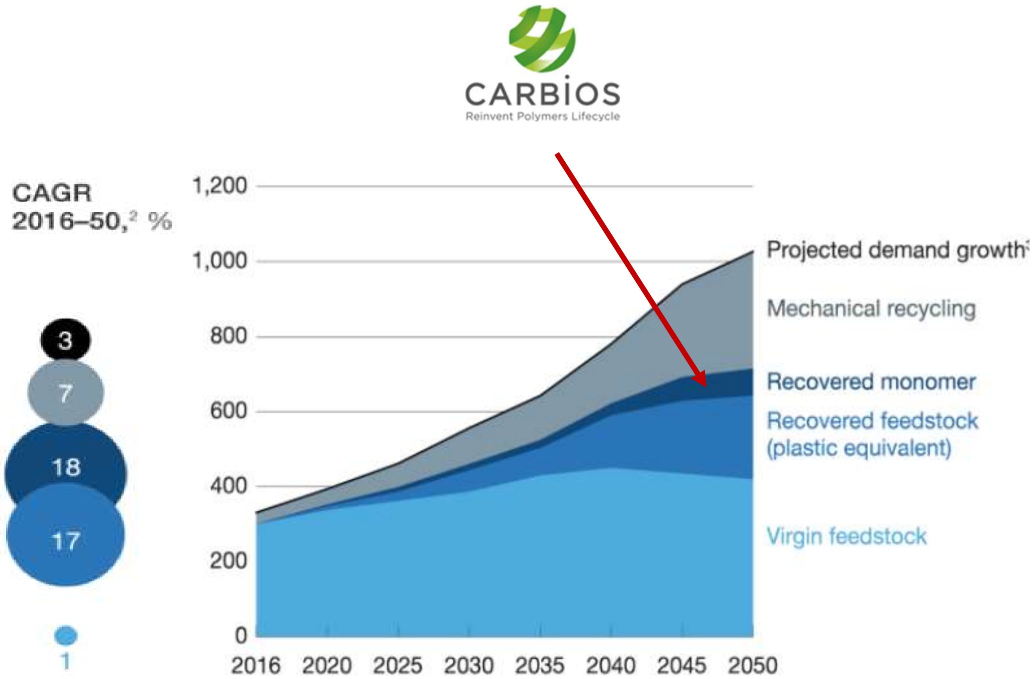
Source: Lazard ; Bloomberg News

DF owns both the world leading alkaline electrolyser manufacturer, Norway's **Nel ASA**, and the emerging leader in solid oxide technology, the UK's **Ceres Power**.

Plastic out the window ?

Beyond Energy and Transportation, the Green awakening is gnawing its way into CPG boardrooms. Consumers are asking for it; CPG packaging is under attack. In its latest CMD, consumer giant Nestlé presented ambitious Co2 emission targets: -50% by 2030. To achieve this goal, they plan to **reduce packaging by 38%.**

By 2050, ~60% of plastics production could be based on plastics reuse and recycling



Source: McKinsey https://www.mckinsey.com/industries/chemicals/our-insights/how-plastics-waste-recycling-could-transform-the-chemical-industry

One of the best ways to get there is to use a new recyclable PLA and PET from **French enzyme science disruptor *Carbios*.** The company's **biodegradable plastic** formulation degrades polymers back to monomer state in a natural humid/wet environment within 3 to 6 months. Pepsico, Suntory, Nestle and Danone are partners ; L'Oréal and Michelin are shareholders; DF is as well.

Timid at first, our Clean Tech & Mobility positions have grown to 20% of the portfolio.

DF owns EV and Clean Tech companies:

- ***NIO Inc., Ehang, Enphase, Carbios*** ; added ***Alfen, Ceres Power, Cree***
- Recently sold ***Tesla, McPhy Energy***; increased ***Nio***
- Watch list: ***ITM Power, Plug Power, XL Fleet, Solar Edge, Lordstown Motors, Fisker, Nikola, Workhorse, Ballard Power, Fuel Cell Energy, Bloom Energy, Electrovaya, Contemporary Amperex Tech, Doosan Fuel Cell, QuantumScape, Blink Charging, xPheng, Li Auto, STMicro, Valeo.***

Life Sciences and Gene Medicine

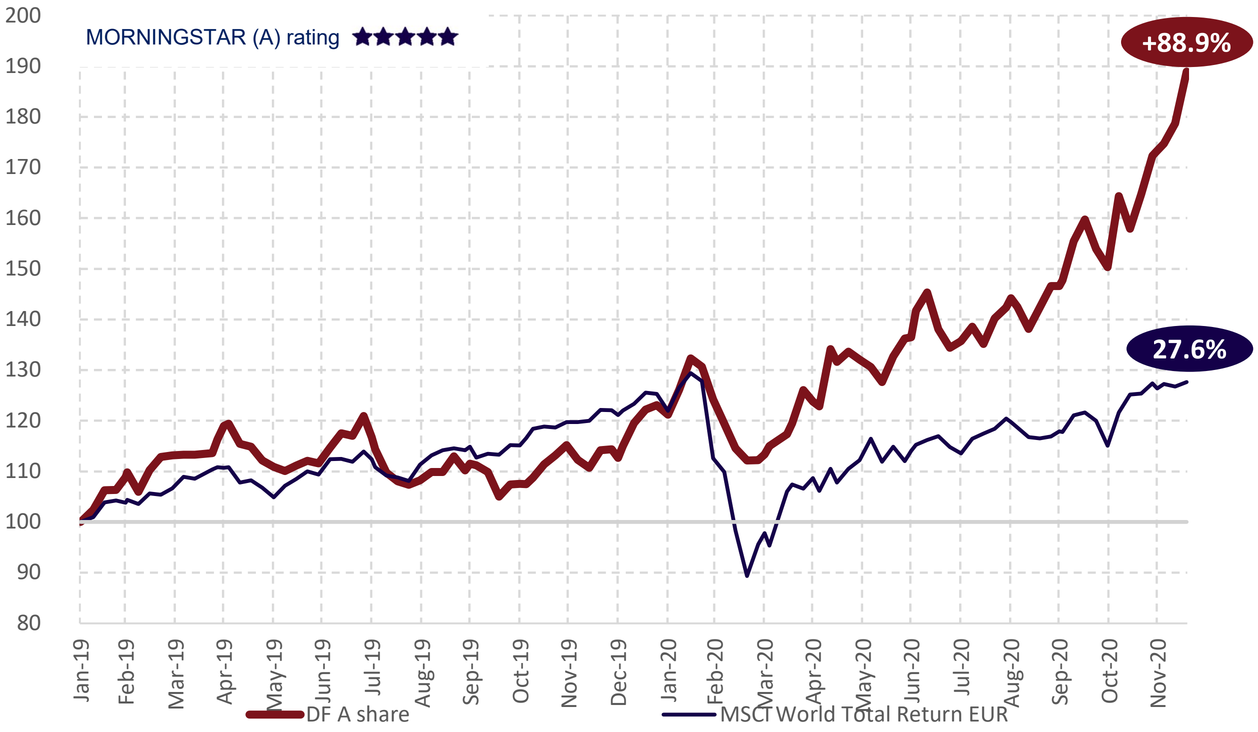
Early in December several gene medicine companies presented clinical progress in blood disorders at ASH. CRISPR Therapeutics and partner Vertex have now dosed 20 patients in two major genetic blood disorder indications. So far, after 23 months for the earliest patients, the **response remains fully *curative, consistent and durable*, suggesting FDA approval of a fully corrective and curative gene editing therapy is now very real and likely approved in 2023.**

DF owns CRISPR and AI driven molecular research companies:

- ***CRISPR Therapeutics, Intellia, Bioxcel, Evelo Bio, Schrodinger***
- Watch list:, ***Fate Therapeutics, Invitae, Illumina, 10X Genomics, ToolGen, Cellectis, Themo Fisher, Personalis, Exact Sciences, Cerus, Adaptive Bio, Natera, Accelerate Diagnostics, T2 Bio, Exagen, Evogene, Editas Medicine***
- Private company watch: ***Caribou Bioscience, Casebia Therapeutics, Graphite Bio***

Disruption Fund Performance

	YTD 18/12/20	Since 31/01/19
Disruption Fund (A share)	**+67.7%**	**+88.9%**
MSCI World Total Return EUR	**+5.36%**	**+27.6%**



Note: Data range = 31/01/2019 → 18/12/2020. Jan 31, 2019 marks the start of the new fund management team, including name change and new prospectus. Past performance is not indicative of future returns. Please consult your investment advisor for suitability. NAV performance shown here is for A-shares, net of fees.

As of Dec 18, 2020, the 37 equity positions of the Disruption Fund were as follows:

- *Snap Inc* 3.99%
- *Twilio Inc* 3.99%
- *Square Inc* 3.80%
- *Uber Technologies Inc* 3.10%
- *Nio Inc* 3.08%
- *Crowdstrike Holdings Inc* 3.07%
- *Nvidia Corp* 2.97%
- *Pinterest Inc* 2.92%
- *Kahoot! AS* 2.90%
- *Lightspeed POS Inc* 2.83%
- *Zscaler Inc* 2.77%
- *Ceres Power Holdings plc* 2.66%
- *CRISPR Therapeutics AG* 2.62%
- *Schrodinger Inc* 2.56%
- *Mercadolibre Inc* 2.52%
- *Zillow Group Inc* 2.48%
- *Alfen NV* 2.41%
- *Carbios SA* 2.38%
- *Paypal Holdings Inc* 2.36%
- *Nanobiotix SA* 2.35%
- *Grayscale Bitcoin Trust* 2.30%
- *Veeva Systems Inc* 2.23%
- *Cree Inc* 2.21%
- *Advanded Micro Devices* 2.17%
- *Sea Ltd* 2.15%
- *Intellia Therapeutics Inc* 1.98%
- *Enphase Energy* 1.98%
- *Nel ASA* 1.93%
- *Soitec SA* 1.85%
- *Stratasys Ltd* 1.79%
- *Bioxcel Therapeutics Inc* 1.61%
- *ASML Holding NV* 1.60%
- *Teladoc Health Inc* 1.51%
- *Apple Inc* 1.49%
- *Amazon.com Inc* 1.42%
- *EHang Holdings Ltd* 1.23%
- *Dune Acquisition Corp* 0.48%

We hope you find our letter useful and look forward to continuing this discussion next month.

Jean-Edwin Rhea – 23 Dec 2020

Legal Information:

Disruption Fund is a French UCITS, (A share: FR0012770154 / B share: FR0012770162) invested primarily in global equities, with a recommended holding period of 5 years. Broadly speaking, the Fund seeks to invest in innovative technology businesses. More specifically, the fund seeks out sectors and companies undergoing structural or technological disruption. The fund manager seeks leading disruptive companies, growing fast, with visionary management teams. All historical data provided is for A-shares, currently closed to new investors.

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The MSCI World Net Total Return Euro Index (Bloomberg : MSDEWIN) is calculated net dividends reinvested and is published by MSCI.