
# IMPACT INVESTING:
# IF YOU DON'T KNOW, NOW YOU KNOW

FLATWORLDPARTNERS

OUTLOOK REPORT

THE MILLENNIAL MOMENTUM

GREEN IS THE NEW BLACK

REGULATION & ELECTION

ELEPHANT IN THE ROOM

ISIS & TERRORISM

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NAUGHTY BY NATURE

# FORWARD:

2015 was a turbulent year that mixed U.S. and global political turmoil with economic volatility and 2016 is likely to see more of the same. Last year, over a million refugees flowed into Europe and terrorist attacks were at record highs. (Deaths from terrorism increased 80% in 2014 to the highest level ever; global economic cost of terrorism reached all-time high at $52.9 Billion.) As for the Global Economy in 2015, Brazil took a tumble with market destabilization, China's currency took a sharp devaluation and oil prices plummeted, which caused the Russian Ruble to decline to its weakest level in over a decade. Meanwhile, the dollar strengthened (appreciating almost 12% in 2015) and the U.S. economy added more jobs month on month, giving the Fed clearance to start raising rates for the first time in over a decade. These trends don't look like they're going away any time soon. So why does impact investing make sense from a tactical portfolio perspective? Let's get into a little Keynesian theory here and take a look at some Macro movements that tie to our impact themes, all backed up by some fun stats (queue the fist pump emoji... 👊)

# GREEN IS THE NEW BLACK

Netflix may have you thinking 'Nope, Orange is the New Black,' but that's so 2013. We're talking about retail, ESG, Real Estate…and the next generation. Ah yes…the Millennials – you may have heard of them… they've recently become the largest demographic in the country, and are demanding a new range of products and services. Research shows they have $300 billion in direct purchasing power, and an additional $500 billion in indirect purchasing power through their partners or families. So what do they want?

According to the *2015 Deloitte Millennial survey*, 75 percent of Millennials believe businesses are too fixated on their own agendas and not focused enough on helping to improve society. The 2014 report suggested that they believe business can do more to address society's challenges of **resource scarcity** (56%), **climate change** (55%) and **income inequality** (49%). They see their consumption choices as personal statements and want to associate with companies that live up to their expectations.

Corporate sustainability reports don't cut it with this group. Having been born into the information age, over a third of Millennials do research into a company's sustainability practices before making a purchase, and half of Millennials are willing to pay more for sustainable products. Companies able to satisfy this increasing desire for sustainability will leverage Millennials' higher purchasing power. Millennials are also spending differently than previous generations, driven both by economic changes - tighter credit standards, higher student debt, and lower entry-level wages - and consumer preferences that elevate the social, networked, and efficient business models over those that create a more individual, private experience.

For example, Millennials are putting fewer purchasing dollars toward homes, cars (thank you *Lyft* and *Uber)* and expensive brands; they choose quality products that create an impact. That means brands are feeling the pressure and over the past year, companies such as Unilever, Johnson & Johnson, P&G and Mars publicly committed to implementing zero deforestation policies throughout their supply chains as efforts toward their sustainability goals. Millennial consumers are going to hold them to it.

***How to Capitalize?***

## A. Sustainable Retail:

Bank on GenX spending more this year on ethical brands. You'll most likely find them ordering their organic *Whole Foods* produce on *Instacart* ($220M Series C raise in Dec 2014) their *Seventh Generation* cleaning products off of *Thrive Market* (*$30m Series A raise in July 2015),* or perhaps acquiring their winter sweater at *Zady* ($1.35m Seed raise in March 2013).

Large companies would rather buy than build the companies and brands that have captured Millennials' hearts. Private consumer products companies are going to be snatched up by larger brands trying to expand product offerings that are meeting the needs of their changing consumers. The natural and organic category is growing six times as fast as the U.S. economy, but is less than 5% of the total consumer packaged goods market; this indicates ample growth opportunities. With extra cash sitting on many of their balance sheets, growth through acquisition versus organic growth makes sense. We like early stage brands like *Soko* ($700k Seed raise in April 2015), *ONEHOPE* ($8M Series C raise in July 2015), *Sustain* (new startup from the Seventh Generation Founder that is currently raising $2.5M in a Series A round) and *W3LL People* (Target's newest cosmetic brand addition).

## B. Public Equities and ESG, not EKGs:

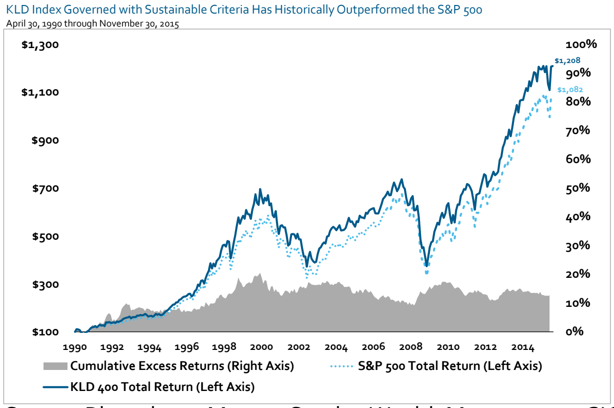
ESG (no this is not the heart test you take at your doctor's office), stands for Environmental, Social and Governance and has become shorthand for investment methodologies that use sustainability factors to identify companies with superior business models and potential for outperformance.

In 2015, the Department of Labor (DOL) made it easier for Pensions to incorporate ESG considerations in their portfolios, by placing ESG in a safe harbor when it comes to fiduciary duty. YAY for this guidance on Employee Retirement Income Security Act (ERISA). An important reason for the move is that ESG factors may even play a positive role in overall performance. Pensions as well as Endowments (those crazy college kids are even demanding their alma maters make ethical investment decisions with your donations!) now have mandates to actively invest in ESG and Impact… Our view: time to put your small 'thinking' cap on and appreciate the edge on trading volume and liquidity on those stocks.

- Now think about all those Millennials pouring their $800BN spending power into ESG-focused companies and how that will help get your 'alpha' up. If you don't believe that ESG Stock will outperform, refer to the beautiful chart on the left.
- Yes, we know; you need Oil and Gas exposure in your portfolio…we're not telling you to drop all the bad guys, but if you were trading heavy on team Oil & Gas this year, that 68% drop in value over the past 18 months was a sweet one (Slow Clap).

KLD Index Governed with Sustainable Criteria Has Historically Outperformed the S&P 500

April 30, 1990 through November 30, 2015




Source: Bloomberg, Morgan Stanley Wealth Management GIC

Our last point on ESG is the discussion of Volatility.

Throwback to Sarbanes-Oxley, circa 2002, that enforced companies to act responsibly around accounting principles to prevent the next Enron, or Dodd-Frank to prevent the next 2008 crisis. It's a matter of time before regulation comes down hard on the next Volkswagen (VW). If you were trading VW stock the day news broke of poor management ethics due to cheating on emissions tests, you would have lost over 25% in a single day of trading (that's a 33% return requirement to get you back to Zero). With ESG factors mitigating the risk of event-driven volatility, such investment considerations might be a great way to avoid holding the next BP oil spill stock. (And you won't need that EKG heart test after all.) After government fines you would have to say Bye Bye to dividends, cash buy-backs, capex or the kind of innovative deal-making we recently saw between GM and Lyft. Let's just say, Volkswagen will be looking in the rearview mirror for quite awhile.

**C. Real Estate is taking the LEED:**

Millennials may not be buying as much property as their forebears, but when they do, they are dictating higher energy standards. Campuses in the US are investing in green buildings, B-Corps get extra points for working in LEED certified office space and even Barry Sternlicht of Starwood has gone eco-friendly with his 1 Hotel chain. Property Assessed Clean Energy (PACE) financing programs allow investments in water, energy-efficiency retrofits, and distributed renewable generation, to be paid back through property taxes, which lowers the risk for both lenders and owners and can potentially open up a far larger swath of the energy-efficiency market.

In 2014, Deutsche Bank structured the first energy efficiency asset-backed security (ABS) for residential energy efficiency, which was a $104 million offering secured under PACE. The security creates cheaper financing, so developers get more bang for their buck as real estate prices have been at market highs. Real estate prices tend to be negatively impacted by rising rates (FYI Yellen hiked rates by 25bps reversing years of "quantitative easing" - that's Fed speak for "easy money"). Commercial real estate still looks healthy, but pricing on retail will stabilize because of a strengthening dollar and less foreign investment, making energy efficiency a great way to keep these properties in the black. Commercial buildings in the U.S. waste 30% of the energy they consume, and with the COP in full swing we believe green RE will be a good real asset investment. To get exposure to green RE check out *ENERTIV*, a building energy efficiency technology company. For green RE funds check out *5Stone Green Capital* or Rose Affordable Housing Preservation Fund II.

REGULATION & ELECTION

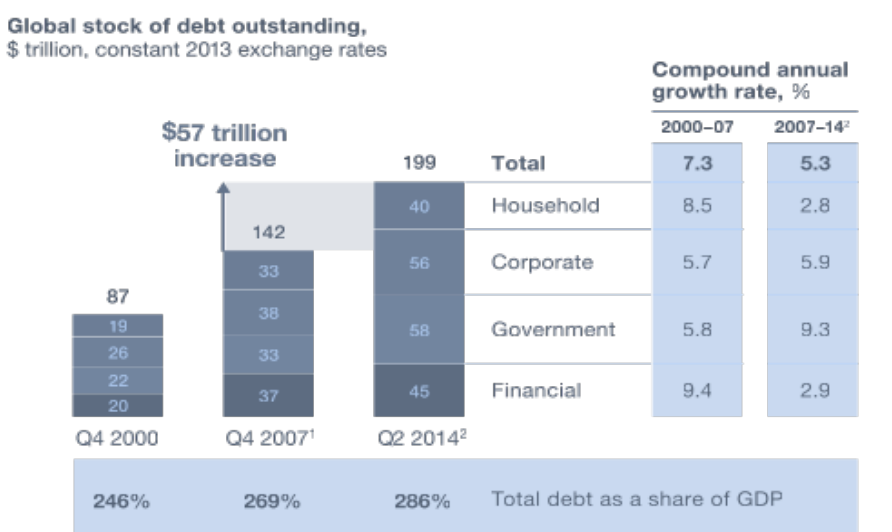
# ELEPHANT IN THE ROOM

We as Impact Investors believe in animal rights, but whether you prefer elephants or donkeys, the U.S. election and changes to regulation will have a large effect on impact investments over the next decade and we believe it's a positive one.

Why? Regulatory hot topics of 2015 included education, incarceration, debt and the need for financial inclusion; all linked to a growing wealth gap. Not surprising, this all starts with the budget deficit. So let's do a debt deep dive: In the words of Michael Burry (who we'll be referencing more than once thanks to 'The Big Short')

*"The idea that growth will remedy our debts is so addictive for politicians, but the citizens end up paying the price. The public sector has really stepped up as a consumer of debt. The Federal Reserve's balance sheet is leveraged 77:1. Like I said, the absurdity, it just befuddles me."*

And we agree with him; that's a frightening number. Apparently we haven't learned from the 2008 crisis and we can thank President Reagan, who in 1980 proved that massive deficits were acceptable to voters if earmarked for important goals. According to the McKinsey report '*Debt and (not much) deleveraging*', from 2007- 2014 the world took on another $57TN of new debt, raising the global debt-to-GDP ratio by 17 percentage points to an unprecedented 286%. (It's a real tearjerker of a read.) The one upside is that financial services and households' debt consumption have grown at the lowest rates. So why does that matter?




[1] Figures do not sum to total, because of rounding.
[2] Q2 2014 data for advanced economies and China; Q4 2013 data for other developing countries.

Source: Bank for International Settlements; Haver Analytics; International Monetary Fund *World Economic Outlook*; national sources; McKinsey Global Institute analysis

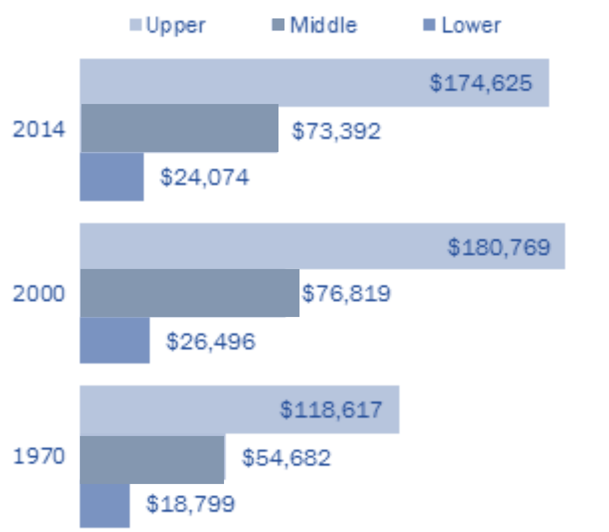
**A. New Kids on the Block(chain); Financial Inclusion 2.0:**

Income and wealth inequality in the United States has grown steadily since the global financial crisis in 2008. The Fed raising rates could reverse the higher returns on capital that the wealthy have enjoyed in the low- to no-interest rate environment of the last fifteen years. This move can further help savers earn a little more. (Pretty chart below shows the change in America's fortunes by income level. Thanks Pew!)

a. A little background as to why: Quantitative Easing (a.k.a. QE; where the Fed injects cash into the markets by buying bonds) and negative real interest rates (accounts for inflation) have caused 'savers' or 'holders of cash' to be financially repressed… They're not earning anything on savings. Meanwhile, QE has increased prices of riskier financial assets, held by the upper echelons of wealth. (When there is no yield in fixed income, markets move to riskier assets those not accessible by middle and lower income households. Interest rate raises reverse this trend.)

**Growth in income for middle-income households is less than the growth for upper-income households since 1970**

*Median income, in 2014 dollars and scaled to reflect a three-person household*




Note: Households are assigned to income tiers based on their size-adjusted income in the calendar year prior to the survey year.

Source: Pew Research Center analysis of the Current Population Survey, Annual Social and Economic Supplements, 1971, 2001 and 2015

PEW RESEARCH CENTER

Now back to debt growth: New legislation set forth after 2008, such as the *Dodd-Frank bill*, has caused unintended consequences; specifically, the *Volcker Rule* (which prohibits banks from conducting certain investment activities with their own accounts) has dried out bond market liquidity. Providers of liquidity were the banks, who now hold a fraction of the bonds that they used to because of steeper capital requirements. New private institutions have since popped up to provide liquidity; enter mezzanine debt hedge funds, payday loans and Peer-to-Peer (P2P) lending.

Technology like blockchain, Bitcoin and crypto-currencies can prevent fraud and hacking as well as save millions in collateral and settlement costs and help to meet new rules on derivatives markets implemented after the financial crisis. Bitcoin and crypto-currencies thus far have limitations in liquidity and infrastructure to serve the poorest of the unbanked, but we believe 2016 will see big growth in these sectors. Right now the most effective 'alternative' currencies are sending phone minutes over borders as a form of payment, e.g. *M-Pesa*.

- About 780M people in India, Indonesia and China don't have bank accounts (that's 40% of the over 2BN unbanked globally), and only 7% of adults with bank accounts in the developing world actively use them. However, cell phones are as common in Nigeria and South Africa as they are in the United States, with about 90%of adults owning mobile phones. Financial Inclusion is key to economic development. Mobile money services allow mobile subscribers to store, send and receive money via their mobile phone without the need for a bank account or reliance on cash. The sector has grown significantly since the crisis and we believe it will become a multi-billion-dollar industry in the coming years.

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**The Theme:** McKinsey highlights that P2P lending, while still small in terms of total volume, doubles in size every year, and is mostly present in China and the US. PWC published a report in February of 2015 noting that this model is rapidly expanding to new product categories including mortgages and other secured loans. Although still in its infancy as a market, US P2P platforms issued approximately $5.5 billion in loans in 2014. Financial inclusion is a core focus for most impact investors as well as a UN sustainability goal. We like P2P because of the flexibility it offers the consumer. Because of innovative technology, we also believe that new and smarter credit qualifications exist; and thanks to the JOBS Act of 2012 we only see this market growing. (PWC estimates that it could be a $150 billion business by 2025.) *Lending Club* and *Prosper* are the well-known brands, but groups like *SoFi* are focusing on individual loans with lower costs than banks, as well as helping students to refinance their loan packages. McKinsey projected that by the end of 2015 P2P platforms would be able to offer loans at 400–500 basis points less than an equivalent bank could. Companies like *OnDeck* and *Kabbage* cap loans at 3 years and 6 months, compared to Bank of America term loans with 5-year maturities.

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- Banks know that they lag on technology, so look out for more acquisitions of financial service tech platforms or partnerships like J.P. Morgan's agreement with OnDeck. (FYI OnDeck shares spiked 28% the day of the partnership announcement.)

If you want some P2P in your portfolio you can jump on one of the platforms directly and start lending, or for a more diverse mix, *Community Investment Management* (CIM) is a fund that provides small business loans utilizing different online platform relationships. For the emerging market (EM) lending fans, *TriLinc* provides short term project financing to EM businesses and there are also a plethora of startup platforms servicing loans and insurance providers in EM - a great example is *Atikus*. Traditional Venture Capital (VC) funds like *Metamorphic* have implemented portions of their portfolio into some disruptive financial inclusion technology around payday lending and blockchain. (If you don't know what Blockchain, Bitcoin or Crypto-currencies are we suggest you make like George W. and get on '*The Google*'.)

**B. School's Out Forever...Education is Not:**

One way for people to escape the credit vise is through education. The returns on education in a knowledge economy are only growing, making a college-level degree a necessity. On July 15, 2015, 150 Millennials took to the Massachusetts State House to rally behind the Education Equity Act (hint, hint: Millennials care about education). A big factor in their discontent is that student loan debt collectively mounts to a whopping $1.2 trillion. This student debt overhang is one factor leading Millennials to move to lower-cost housing markets, start families later, and take jobs that don't use the education they paid to the hilt for in the first place.

- So which Candidates make the grade for education financing support:
    - Hillary Clinton, has proposed a $350 billion college affordability plan centering around two key areas: making the cost of college more affordable, and reducing the burden of student debt for those looking to receive a college education.
    - Governor Martin O'Malley has focused on addressing student debt and millennial issues by proposing a five-year goal to ensure students graduate debt-free from public institutions.
    - Senator and provocateur Bernie Sanders has advocated for a $750 billion financing plan, taxing hedge funds and Wall Street firms and corporations, while making tuition and fees free at every public college and university in the United States.
    - Nothing much has come out of the Republican field. Apparently elephants aren't big on education…*tusk, tusk (I mean tsk, tsk)...*

**The Theme:** Perhaps Alice Cooper said it best…'No More Pencils, No More Books'. Education technology has gained traction as an impact investment and we've seen plenty of ideas that we like. Education is a key underlying driver to solving poverty, female inequality and terrorism, amongst many other current global issues. It's one of the areas of impact investment that has a track record. Education alternatives are a great solution to reducing student debt. Groups like *Make School* focus on vocational training for younger students and take a proportion of future earnings, therefore preventing these students from incurring student debt. *GoldieBlox* is a female-run startup whose focus is to get more girls in STEM (Science, Tech, Engineering and Math) through engineering toys for girls.

**C. The Great Debate: Marijuana and Recidivism:**

This debate boils down to one central question: are the American people giving up more than they're getting by criminalizing marijuana and keeping millions of its citizens in prison?

Remember that pesky deficit? Well, regulation on legalization may be a sneaky neutralizer. Regulation changes and potential legalization bills are getting put in front of Congress, so look out for more political discussions post this year's election. The estimated U.S. economic impact, if cannabis were legal, is $42 Billion, including taxation and law enforcement relief (Dr. Jon Gettman, "*Lost Taxes and Other Costs of Marijuana Laws*"). Over 300,000 people are in American prisons for drug offenses. Prison Systems cost US taxpayers over $80BN per year, and recidivism rates are at new highs (no pun intended).

- Roca, a Massachusetts organization that aids high-risk young men who are on track for incarceration and early death, has shown an effective model for keeping its participants out of jail and in steady jobs. They just landed a $27M social impact bond – the largest ever of U.S. Social Bonds: donors put money in social impact programs, which have specific and tangible goals, and make money back (paid by the state of Massachusetts and the DOL). Of 115 young men who are part of the program, 89% have had no new arrests, 69% retained employment for at least three months and 95% had no new technical law violations.

  **The Theme:** We aren't as bullish on Social Bonds, but there is a greater theme here; new financial products that are focused on social development, saving governments money in the long-term. If Roca achieves a 70% reduction in recidivism, the payout will be capped at $27 Million and the state will save an additional $18 Million over the contract period. What we're watching is the strong correlation between legalization, the reduction in recidivism and the positive effects this has on state budgets. There are some early stage funds and tech companies exploring the sector that we're monitoring.

- *SIDE NOTE:* You can also take a look what's under the hood of your public market exposure. Corrections Corporation of America is widely held by American mutual funds. Growth in CCA's business means more Americans behind bars. We know that incarceration pulls families and communities part and it's just a matter of time before that social cost is priced in to the stock. (OK, so we maybe agree, Orange is also the New Black).

ISIS & TERRORISM

# THE NEW WORLD DISORDER

The tragic terror attacks in Paris and California, as well as threats in other major cities, have raised demand for tighter security procedures. There's a new "war on terror" and it's not just in Syria, Iraq and Afghanistan; more so, it's not about artillery firepower but digital firepower (so leave the tankers and stealth bombers at home and bring out the drones and your best hackers). President Obama's 2016 budget includes a proposal for an 11% increase in funds for cybersecurity strategy, and after the Paris bombings, the U.K. proposed to double its cybersecurity spending. Not surprisingly, companies with surveillance and cybersecurity businesses stand to benefit.

**A. Coding is Cool…So is Cybersecurity:**

In late December 2015 President Barack Obama signed into law a $1.1 Trillion spending bill which includes the Cybersecurity Act of 2015. The Act provides $314 million for cybersecurity activities, specifically focused on improving the cybersecurity of the energy sector.

Venture capital investments in cybersecurity startups continues to grow at about 40% each year over the past several years and equates to approximately $3.5 billion in 2015…that's still only 7% of total VC investments. We believe these statistics demonstrate reasonable valuations and existing opportunities not over-invested amongst the VC community. Companies like Cisco, Salesforce and Microsoft are snatching these companies up. *Allegis Capital* is one fund that has invested in cybersecurity since 1996 and family offices are hot on their heels - we've seen quite a few seeking such investments.

**B. Game of Drones:**

Today, the drone (UAV) market is taking off; by 2025, the total job creation in the commercial drone industry is estimated at 100,000+. In combination, there are about 22 million individuals who served on active duty in the U.S. Armed Forces; 53% of them face a period of unemployment within 15 months of separation, according to the US Department of Veterans Affairs. One of our potential investments ties job creation and the Veteran workforce.

Drones aren't just for Amazon anymore; we've seen some amazing companies and projects that are utilizing them for good. Some examples include protecting oceans through monitoring of fisheries licensing, disaster insurance analysis to decrease premiums and enhance yields for subsistence farmers in Africa, or for security and anti-terrorism efforts.

- Our favorite project is from the brain-child of *Calso*, a California-based social enterprise that aims to preserve the environment and to break major barriers disadvantaged people face. Drones 4 Good trains veterans to drive drones over California agriculture land to monitor water use, by utilizing remote sensing methods to collect data and provide maps of the spatial variability of water stress level. (FYI: California will likely lose 17,100 agricultural jobs because of the drought, not to mention prices to consumers have increased by 15%.)

**C. The Independent Thinker:**

Emerging Markets have been on the tip of investors tongues for years now. The challenge for investors is that Emerging Markets account for a disproportionate share of tail risk in the global economy. This is because of external factors: poor infrastructure, less stable political systems, and the rise of Islamic State (ISIS). Geopolitical events, as mentioned earlier, have dominated market sentiment and the early 2016 swings in China's economy compounded by low oil prices are already shaking the markets. In the coming year it is even more important to have a diverse investment portfolio and impact should be a piece of this.

- Many impact investments support infrastructure in Emerging Markets that can reduce tail-risk of other pieces of your portfolio. We also have a bullish view on independent news outlets that can reduce propaganda and defuel the growth of ISIS through education. *Media Development Investment Fund* (MDIF) invests in independent media around the world providing the news, information and debate that people need to build free, thriving societies. As for start-ups, *News Deeply* is a new media and technology company dedicated to bringing thought leaders together, enhancing public engagement, and improving the user experience of complex global issues.

COP & INTERNATIONAL DEVELOPMENT

# NAUGHTY BY NATURE

You down with COP? Ya you know me! Naughty by Nature released this classic hit in 1991, just one year prior to the first COP "Conference Of the Parties" environmental conference in Brazil. Good news; it only took 23 years of negotiations for the heads of 150 states to agree to not destroy Earth. This 20th COP in Paris was the time when the world finally said adios to greenhouse gasses and fossil fuels. Cities play a key role in this plan as they account for roughly 70% of greenhouse gas emissions across the world. Collective action never felt so good.

One of the main sticking points in the Paris talks was whether or not developing countries like India or China would be able to grow without having to worry about carbon emissions. No, they can't, but people did see how it's kinda unfair to have a double standard since the US and Europe emitted away in the 19th and 20th centuries. To pay off, err, incentivize developing countries to switch to a renewable, less-carbon intensive energy system, so-called developed nations agreed to put $100 billion toward it. We'll be looking for investment opportunities that get in front of that subsidy stream.

More global togetherness happened in September with 195 nations signing the 17 UN Sustainable Development Goals in the 2030 Agenda for Sustainable Development (Can we get a Kumbaya?). It picks up where the Millennium Goals left off -- continue to end poverty, empower women, and conserve resources, offering a global framework for just about anything anyone would want when it comes to economic development in the 21st century. The good news is that the millennium development goals were successful cutting extreme poverty by more than half. The UN is calling for more private sector involvement in the SDGs which makes sense given that reaching the goals will take more than government spending.

Water ranks right up there on the list of things humans really need to get right. Demand for water is projected to exceed supply by 40% within the next 16 years, if global water consumption continues to increase at its current rate. Major culprits of water use include agriculture and energy generation. Oh and for the wine enthusiasts, a bottle of wine takes over 400 bottles of water to produce (new meaning to the Biblical water to wine scenario. #WWJD).

A. **When Your Parents Said "Don't Waste Your Food":**
Back to 'The Big Short' and another Michael Burry quote; he knows what's up…and we don't mess with *Burry's investment ideas*. His next big investment theme is water (Yeah, it's ours too).

*"Fundamentally, I started looking at investments in water about 15 years ago. Fresh, clean water cannot be taken for granted. Buying up water rights did not make a lot of sense to me, unless I was pursuing a greater fool theory of investment – which was not my intention. What became clear to me is that food is the way to invest in water. That is, grow food in water-rich areas and transport it for sale in water-poor areas. This is the method for redistributing water that is least contentious, and ultimately it can be profitable, which will ensure that this redistribution is sustainable."*

According to the OECD, population growth and rising income are driving global demand for food, which will require agricultural production to increase by 70% by 2050. Finding ways to create greater value from water, as Burry does, to meet this demand will generate better returns in the long run.

Urbanization is a huge driver of waste and environmental destruction. Projections show that the number of people living in cities will almost double by 2050, thereby increasing the overall gas emissions coming from cities as well as municipal waste generation. Even organic waste produces greenhouse gases such as methane, while dumps and landfills also produce leachate, which can pollute surface water. San Francisco is one city that's taking on this issue by setting a goal for 100% recycling (and being waste free) by 2020. Investing in one of their revenue bonds targeted at water or waste recycling facilities is one way to be part of the solution.

For the Big Oil fans in the room: water related costs in fracking include the acquisition of source water as well as transportation of the source water to the well. The Oil & Gas Journal reports, "There are requirements such as water supply, regulations, and transportation, principally trucking (which may account for 65% to 80% of total oilfield water management expenditures)." The cost to treat frac water with evaporation/crystallization runs close to a staggering $140 per 1,000 gallons as opposed to Reverse Osmosis that runs between $6 to $10 per 1,000 gallons. (Natural gas fell to $3/MMBTU and Oil dipped to below $30/barrel this week… hmm profit margins).

Now for the scary part: Global agricultural production is actually projected to slow from 2.1% average annual growth to 1.5% per year between 2014 and 2023. This is because of land scarcity, rising costs and resource restraints (read: WATER). Basically we should all re-watch 'The Martian' and take some botany notes from Matt Damon. (Botanists may be making a comeback, next to Coders.)

*See some more stats to the right from the Dutch fund Shift Invests (another one we're watching)*


- We're watching VC funds like Urban.US that invests in start-ups focused on impacting urban city living across mobility and logistics, environment, utilities and local government.

- Vertical farming is another sector where we've seen a lot of deal flow and we're 'digging it'. What we're really excited about is the intersection of job creation, agriculture sustainability and emerging markets. *Shared-X*; the start-up of an ex Kleiner Perkins partner and a Peruvian agriculture minister. Shared-X is integrating best-in-class agriculture practices to improve efficiencies for local farmers in emerging markets; increasing revenues for these small holder farmers by 4-5x. They work in areas with easy access to water and focus on organic commodities, from bananas to coffee.

**B. Hasta La Vista CO2; We're Going Off Grid:**

This past December, Schwarzenegger addressed the attendees of the COP21, stating the world must unite to tackle climate change, rather than pointing the finger at the largest polluters, such as China. (Naughty China, we'll get back to you.) If the Terminator can get behind the COP so can we. Last month, Schwarzenegger left a Facebook post saying (read with an Austrian accent to sound more intimidating):

*"A clean energy future is a wise investment, and anyone who tells you otherwise is either wrong, or lying. Either way, I wouldn't take their investment advice. Renewable energy is great for the economy, and you don't have to take my word for it. California has some of the most revolutionary environmental laws in the United States, we get 40% of our power from renewables, and we are 40% more energy efficient than the rest of the country. We were an early-adopter of a clean energy future. Our economy has not suffered."*

So we're not saying go nuts on renewable energy; after all, SunEdison's stock dropped 30.13% in a single day of trading last week after an announcement of their debt restructuring. (SunEdison, LLC is a developer and seller of photovoltaic energy solutions, an owner and operator of clean power generation assets, and a developer and maker of silicon wafers.) We're watching solar; some states are rolling back their net metering incentives and the long term effects of solar panel disposal to the environment have yet to be proven.

We are however hot on Off Grid power. We're seeing more investments in companies like Off Grid Electric, who raised a $25 million Series C round last October led by DBL Partners (one of the original investors in Tesla and SolarCity). Off Grid Electric charges a minimum of $5 per month for any home in Africa to access solar power through its *M-Power* energy hub in Tanzania. It encourages users to switch from kerosene lamps to solar, and they benefit from a higher-quality and cheaper service. What's great is that M-Power has built infrastructure behind their business (something that is often missed by social entrepreneurs). One of the challenges they encountered was access to talent; the solution? Build a school! The M-POWER Academy provides training to top university graduates and aspiring professionals interested pursuing a career in building Tanzania.

Off Grid applies the mobile phone usage to its business model; customers in Africa pre-pay for the service each week. They can opt to top up their solar energy system in small increments and pay on mobile. Look at that for financial inclusion!

### C. Bull in a China Shop:

You may be thinking, China…That's so last year. America has relied on foreign buyers of U.S. debt (aka Treasuries) to help pull the economy out of recession through stimulus and bail out the banking system. Remember that debt issue we mentioned? Yeah... China owns $1.47 trillion of about $6.13 trillion of Treasuries that foreign investors and institutions hold. Back in 2007, then New York Senator Hillary Clinton noted that foreign ownership of U.S. debt was a "source of great vulnerability." The economy "can too easily be held hostage to the economic decisions being made in Beijing, Shanghai and Tokyo".

- *Back to Terrorism:* Cybersecurity isn't just about hacking buildings, planes or causing actual death, it's about financial market terrorism. Manipulation of U.S. markets can come from control over our debt as well, so more foreign ownership is worrisome, especially when owners of this debt have strained relationships with U.S. political leaders. Last year, Chinese hackers broke into the Federal Government's personnel files and stole personal information on over 4 million US government employees.

- *Financial Inclusion:* Though China's banking population is the fastest growing globally (15% growth since 2011) there are still close to 300 million unbanked households. Findex reports show that 19% of adults with an account in China make payments from their account using their mobile phones. It is also significant that over 80% of Chinese access internet on their mobile phones; whoa mobile banking opportunities! (Alibaba uses e-commerce data to make small loans to its customers.) Remember the McKinsey stat: China has one of the highest percentages of P2P lending.

- *On to COP21:* Old Arny (Arnold Schwarzenegger) noted that China is one of the largest culprits of pollution but the world's bankers are helping pull them out of the Oil & Gas dark ages. Both Deutsche Bank (Arny would like the Germans getting involved) and *RobecoSAM* have launched Clean Energy and Environment funds focused on China. These moves have been driven by the Chinese Government stimulus program announcing a 'war on pollution' with numerous initiatives and China leads the world with clean energy funding of over $81BN in 2014.

## AFTER: Drop the Mic (Emoji Included: 🖐🎤)

Regulation and the elections can solidify these investment opportunities. U.S. economic policy as well as foreign policy will be significant drivers to the success of impact investments in 2016. More so, Impact investing will help investors navigate the choppy political, economic, and financial waters of 2016.  Conventional wisdom says that the market doesn't like uncertainty. We do. It creates opportunity for business innovation and value creation in places where the big money is afraid to go.  We have our eyes open when it comes to the most pressing problems of today and for the next generation. U.S. investors can take a greater stake in international development, that will in fact stimulate other aspects of their investment portfolio; so whether you are P2P lending to Chinese farmers or investing in one of the funds we've mentioned we expect impact to continue its growth in assets under management, large in part...yes, due to those Millennials.

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# FLAT WORLD EXPLAINS: *(Click on a Bubble)*

IMPACT INVESTING

BLOCKCHAIN

KABOCHA SQUASH TOAST

COP21

ISIS

WHY EDUCATION ROCKS

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## APPENDIX

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