Value investors today!

HOW TO INVEST IN WATER LIKE DR. MICHAEL BURRY FROM THE BIG SHORT

John (Mr. Vintage Value Investing) (https://vintagevalueinvesting.com/author/szramiakje2/) | February 22, 2016 | All Posts (https://vintagevalueinvesting.com/category/all-posts/), Michael Burry (https://vintagevalueinvesting.com/category/superinvestors/michael-burry/), Most Popular (https://vintagevalueinvesting.com/category/most-popular/), Superinvestors (https://vintagevalueinvesting.com/category/superinvestors/), Value Investing (https://vintagevalueinvesting.com/category/value-investing/) | 24 Comments (https://vintagevalueinvesting.com/how-to-invest-in-water-like-michael-burry-from-the-big-short/#comments)

Be sure to check out the Official Water Stock Guide for Q1 2017 (https://vintagevalueinvesting.com/40-best-water-stocks-buy-right-now/) and get started investing in water today!

One of the eight films that was nominated to win the Oscar for Best Picture at the 88th Academy Awards (http://oscar.go.com/news/oscar-news/when-are-the-oscars-2016-start-time-and-date-for-the-88th-academy-awards) in 2016 was The Big Short (http://amzn.to/29mpCB6).

The movie, based on Michael Lewis's book The Big Short: Inside the Doomsday Machine (http://amzn.to/1nqTWAd), tells the story of four investors who predicted the credit and housing bubble collapse in 2008 and decided to bet against Wall Street, earning billions of dollars in the process.

The first of these investors that predicted the housing bubble was Dr. Michael Burry, who is portrayed in The Big Short by Christian Bale.

While the movie does a great job explaining how Michael Burry was able to make nearly $1 billion betting against the housing market in 2008, it left many viewers very puzzled about a completely different issue – the last line of the movie, printed on a placard, is:

> ***"Michael Burry is focusing all of his trading on one commodity: Water."***

This is a perplexing statement, because unlike other commodities like oil, cotton, or silver, there is no market to trade water.

So how can someone invest in water? Should you just buy a rain bucket?

Well, you have 3 different options if you want to invest in water:

1. Purchase water rights
2. Invest in water-rich farmland
3. Invest in water utilities, infrastructure, and equipment (https://vintagevalueinvesting.com/40-best-water-stocks-buy-right-now/).

But first, let's talk about *why* you might want to invest in water in the first place anyways.

WHY INVEST IN WATER?

Depending on where you live, you might take fresh, clean water for granted. I know that I normally do.

We often spout off the fact that 70% of the Earth's surface is covered in water – something we probably all learned in kindergarten. While this is true, *freshwater* – the kind we care about – actually only represents **2.5%** of that amount (http://environment.nationalgeographic.com/environment/freshwater/freshwater-crisis/). On top of that, only **1%** of our freshwater is easily accessible, with most of the other 99% trapped in glaciers and snowfields. In the end, only **0.007%** of the planet's water is actually available to fuel and feed the world's 7 billion people.

We all know that water is essential for life. But 0.007% of the world's total water is still a lot of freshwater. So what's the problem here?

According to the U.N. (http://www.un.org/waterforlifedecade/scarcity.shtml), water use has grown at over twice the rate of the world's population increase in the last century. Today, we use about 30% of the world's total accessible renewal supply of

water. In less than 10 years, that percentage could reach 70%. By 2025, an estimated 1.8 billion people will live in areas plagued by water scarcity, with 2/3rds of the world's population living in water-stressed regions.

Making matters worse, the water infrastructure in most developed countries is aging… and we haven't taken any steps to upgrade it yet. The American Society of Civil Engineers (ASCE) predicts (http://www.asce.org/water_and_wastewater_report/) that at current rates there will be an $84.4 billion gap by 2020 between what we're spending on water infrastructure and what is needed. Without upgrades, the U.S. is facing a loss of $416 billion in GDP.

Still don't think access to freshwater is an issue?

- *Just ask anyone who lives in California, which is in the 5th year of one of the worst droughts on record (https://www.propublica.org/article/california-drought-colorado-river-water-crisis-explained).*
- *Or ask anyone who's witnessed one of the 195 conflicts since 2000 (http://www2.worldwater.org/conflict/timeline/) that have been caused by water.*
- *Or ask the residents of Flint, Michigan (https://en.wikipedia.org/wiki/Flint_water_crisis), who are experiencing firsthand the effects of America's aging water infrastructure.*

Clearly there's a growing and critical demand for access to freshwater and for related products and services. So how can an intelligent investor profit from it?

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HOW DO YOU INVEST IN WATER?

OPTION #1: PURCHASING WATER RIGHTS

A water right gives the owner the right to use water from a water source (e.g., a river, stream, pond, or source of groundwater).

An investor who buys a water right can make money by selling (or in some states renting out) the water right for a higher price than was originally paid. Buyers might be municipalities, farmers, or corporations.

Obviously, prices depend on the demand for the water, which itself is a function of the *need* for water and the water's *use*. For example, hydraulic fracturing generates massive demand for water as the development of an oil well requires 3-5 million gallons of water, and 80% of that water can't be reused. Fracking companies, therefore, pay as much as $3,000 per acre-foot for water rights – compared to only $50 per acre-foot paid by farmers.

Setting aside the moral implications that might arise from choosing to sell water solely to the highest priced bidder, the economics of making money from water rights faces other issues as well.

The main issue is that it's a perfect example of "greater fool theory." **The water right itself doesn't provide any value.** Consequently, the only way to make money from water rights is to find someone willing to pay a higher price for it than you did. Sometimes this might work out. Sometimes it won't.

Here's a perfect example:

> T. Boone Pickens owns more water rights than anyone else in the United States. In 2011, while Texas was suffering through one of the worst droughts in more than 50 years, Pickens was trying to sell his rights to the Ogallala Acquifer (one of the world's largest) to the Dallas-Fort Worth area. Talks with Dallas were dependent on the area's drought situation. Every time it rained, negotiations fell apart. Pickens eventually sold to the Canadian River Authority

for half of his asking price. He later compared the deal to buying and selling a boat: the happiest two days of owning a boat are the day you buy it and the day you sell it.

In addition to the greater fool theory, the right to water is a highly political and litigious issue. T. Boone Pickens has huge political influence in Texas and owns enormous amounts of water rights, which is why he is pursuing his particular strategy. Additionally, water laws are very complicated and vary state-by-state – and raise the issue: how can someone own, buy, or sell a resource that is a human right and is necessary for all forms of life to survive?

In any case, the barriers to entry here mean buying water rights just doesn't make sense for the average investor.

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OPTION #2: INVEST IN WATER-RICH FARMLAND

2,000 years ago the ancient Romans built aqueducts to transport water from higher elevations to lower elevations. Aqueducts – combined with pipelines and pumping systems – are still used today in some geographies, including California, Australia, and Libya.

However, transporting water is not an easy feat – nor does it entirely solve problems without creating new ones. Here are some of the issues:

1. The actual construction of a pipeline is extremely expensive, often costing billions of dollars.
2. Maintenance expenses to keep the pipelines going are also incredibly high.
3. Just like any oil pipeline, the construction of a water pipeline can disrupt ecosystems, ruin scenery, and create obstructions.
4. Most importantly, water pipelines – by their nature – are designed to divert water from a specific source. This can have serious ripple effects, affecting

coastlines, aquatic life, plant life, and economic activity.

This brings us to the crux of Dr. Michael Burry's latest "water trade" and why we're talking about farmland. In a December 2015 interview with NY Magazine (http://nymag.com/daily/intelligencer/2015/12/big-short-genius-says-another-crisis-is-coming.html), Burry had this to say about water:

> *Transporting water is impractical for both political and physical reasons, so buying up water rights did not make a lot of sense to me… 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. A bottle of wine takes over 400 bottles of water to produce — the water embedded in food is what I found interesting.*

In another interview with Bloomberg in 2010 (http://www.bloomberg.com/news/articles/2010-09-07/michael-burry-predictor-of-mortgage-collapse-bets-on-farmland-and-gold), Dr. Michael Burry said "I believe that agriculture land – productive agricultural land with water on site – will be valuable in the future."

Certainly compared to water rights and water pipelines, growing food in water-rich areas and selling it in water-poor areas is the least contentious and most sustainable method for water distribution.

How can we capitalize on this?

Michael Burry is incredibly media-shy, but according to my research he's been buying up almond farms. Why? Growing almonds takes a ridiculous amount of water – 1 gallon per almond. Paradoxically, 80% of the world's almond supply is grown in California, which is going through one of the worst droughts in the state's history.

Now, farmers can fallow (http://dictionary.reference.com/browse/fallow) most crops if there is a drought and just start over the next year. But you can't fallow an almond orchard (http://news.nationalgeographic.com/2015/04/140421-california-almonds-drought-central-valley-groundwater/). An almond tree (http://www.oregonlive.com/opinion/index.ssf/2015/04/why_california_almond_gro takes 3 years to mature and produces for 18-20 years. Without water, the tree dies and the farmer loses an enormous long-term investment. Because *surface water* has been rationed in California, farmers are drilling deeper and deeper for *groundwater* just to keep their almond orchards alive.

Michael Burry's thesis is pretty clear now. With the demand for almonds continuing to grow, the farmland with the best access to onsite water is the one that is going to win out in the end, gaining share as competing almond farmers run out of water and are forced out of the marketplace.

Just like water rights, the barriers to pursuing this investment strategy are also high. The investments would have to be made on a very localized, regional basis, and would require fairly significant amounts of capital. Again, not a great strategy for the average investor.

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OPTION #3: INVEST IN WATER UTILITIES, INFRASTRUCTURE, AND EQUIPMENT

The recent crisis in Flint, Michigan (http://www.wired.com/2016/01/heres-how-hard-it-will-be-to-unpoison-flints-water/) – where lead from the city's aging pipe system leached into the water supply – has drawn national attention to the nation's aging water infrastructure.

By some estimates (http://www.foxbusiness.com/features/2016/01/28/america-s-water-infrastructure-is-in-need-major-overhaul.html), more than $1 trillion in upgrades over the next 25 years are needed for the vast system of mostly

underground pipes in the U.S., and experts are saying concerns over the aging infrastructure can no longer be ignored. In fact, the ASCE (http://www.asce.org/) (the American Society of Civil Engineers) believes that most of our drinking water infrastructure is nearing the end of its useful life and gave the country's drinking water and sewage infrastructure a "D" grade. Without upgrades, the U.S. is facing a loss of $416 billion in GDP due to increased costs to households, loss of worker productivity, increased wasting of water… and more disastrous events like Flint, Michigan.

What kind of investments does the country need? New and improved treatment plants, expanded pipes, and better waste-water networks. The ASCE recommends financing these projects through government-backed revolving loans, tax-free private bonds, and the establishment of a federal water infrastructure trust fund and a Water Infrastructure Finance Innovations Authority with the ability to borrow from the federal government.

Additionally, bills are in process in various state capitals that could open the door to the privatization of water utilities (http://wuwm.com/post/bill-could-open-door-privatization-water-utilities-wisconsin#stream/0) in an effort to improve the quality and operations of poorly managed public water systems (like the one in Flint).

One way to benefit from these coming changes is to invest in the stocks of individual water utility companies. The water utility space is highly fragmented, and further privatization could lead to a roll-up play by larger companies, as well as free up access to the capital markets for infrastructure development.

The implementation of this strategy is already partly underway. American Water Works Company (NYSE: AWK (https://www.google.com/finance?q=NYSE:AWK)), the largest publicly traded water and waste service provider in the U.S., closes approximately 15 acquisitions every year, and the second largest utility, Aqua America (NYSE: WTR (https://www.google.com/finance?q=NYSE:WTR)), has made 300 acquisitions over the past two decades.

Other plays include investments in companies that actually build water infrastructure and equipment, such as:

- Calgon Carbon (CCC (https://www.google.com/finance?q=NYSE:CCC)): A manufacturer of products that remove contaminants and odors from liquids and gases, both for industrial, municipal, and consumer markets.
- Mueller Water Products (MWA (https://www.google.com/finance?q=NYSE:MWA)): One of the largest manufacturers and distributors of fire hydrants, pipe fittings and valves in North America.
- Xylem (XYL (https://www.google.com/finance?q=NYSE:XYL)): A manufacturer of pumps, valves and analytic equipment used to move, test, and treat water in more than 150 countries.

There are a ton of different individual water companies to research, and a lot to learn about how the industry works.

> Be sure to check out the Official Water Stock Guide for Q1 2017 (https://vintagevalueinvesting.com/40-best-water-stocks-buy-right-now/) and get started investing in water today!

You don't have to worry if you're overwhelmed by the amount of different water stocks (https://vintagevalueinvesting.com/40-best-water-stocks-buy-right-now/) out there though. That's why god created index funds.

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THE GUGGENHEIM S&P GLOBAL WATER INDEX ETF (NYSE: CGW)

By now, everyone should be aware of the advantages of investing in a passive index fund – namely diversification at a very low cost. If you don't know what an index fund is, then check out What's an Index Fund? (https://vintagevalueinvesting.com/whats-an-index-fund-whats-an-etf/)

The **Guggenheim S&P Global Water Index ETF** (http://guggenheiminvestments.com/products/etf/cgw)(NYSE: CGW) is one of the best ETF's to invest in if you want exposure to water-related companies.
CGW tracks the S&P Global Water Index and, at an expense ratio of only 0.64%, is one of the cheapest on the market.

The **S&P Global Water Index** (http://us.spindices.com/indices/equity/sp-global-water-index) itself tracks 50 companies from around the world that are involved in water related businesses.

The Guggenheim S&P Global Water Index ETF tracks the S&P Global Water Index with a correlation of 0.95 or better (1.00 would represent perfect correlation).

GUGGENHEIM S&P GLOBAL WATER INDEX ETF CONSTITUENTS

The S&P Global Water Index (and by extension the Guggenheim S&P Global Water Index ETF) is comprised of approximately 50 water stocks (https://vintagevalueinvesting.com/40-best-water-stocks-buy-right-now/) selected based on the relative importance of the global water industry within the company's business model. The Index is designed to have a balanced representation from different segments of the water industry consisting of the following two clusters:

- *25 Water Utilities and Infrastructure companies: w*ater supply, water utilities, waste water treatment, water, sewer and pipeline construction, water purification, water well drilling, water testing

- *25 Water Equipment and Materials companies:* water treatment chemicals, water treatment appliances, pumps and pumping equipment, fluid power pumps and motors, plumbing equipment, plumbing pipes, fluid meters and counting devices

To ensure investability, a developed market listing and a minimum total market capitalization and float-adjusted market capitalization of at least $250 million and $100 million, respectively, is required. The Index is rebalanced semi-annually. No single stock may have a weight of more than 10% in the Index at each rebalancing.

38% of the ETF's holdings are located in the U.S., 18% in the U.K., 10% in France, 8% in Switzerland, and 8% in Hong Kong, with the balance distributed throughout the rest of the world.

GUGGENHEIM S&P GLOBAL WATER INDEX ETF – TOP 10 HOLDINGS

TICKER	NAME	SHARES	MARKET VALUE	WEIGHT
GEBN	GEBERIT AG	78,606	$27,755,478	8.09 %
AWK	AMERICAN WATER WORKS CO	382,586	$24,833,657	7.24 %
UU/	UNITED UTILITIES GROUP PLC	1,447,265	$19,636,424	5.72 %
VIE	VEOLIA ENVIRONNEMENT SA	766,227	$18,401,778	5.36 %
PNR	PENTAIR PLC	374,450	$17,644,084	5.14 %

DHR	DANAHER CORPORATION	199,822	$17,314,576	5.05 %
SVT	SEVERN TRENT PLC	505,790	$15,705,268	4.58 %
SEV	SUEZ ENVIRONNEMENT CO	756,768	$13,982,044	4.08 %
XYL	XYLEM INC/NY	377,452	$13,569,399	3.96 %
WTR	AQUA AMERICA INC	375,259	$11,831,916	3.45 %

Click below to see all 50 of CGW's holdings.

+ All 50 Guggenheim S&P Global Water Index ETF Holdings

GUGGENHEIM S&P GLOBAL WATER INDEX ETF PERFORMANCE

GUGGENHEIM S&P GLOBAL WATER INDEX ETF – HISTORICAL PERFORMANCE

(HTTPS://I2.WP.COM/VINTAGEVALUEINVESTING.COM/WP-CONTENT/UPLOADS/2016/02/GUGGENHEIM-SP-GLOBAL-WATER-INDEX-ETF-HISTORICAL-PERFORMANCE-2.PNG?SSL=1)

Click chart to enlarge.

The chart above shows CGW's historical performance over the past 7 years and the chart below compares CGW's annual price returns to the fund's NAV and the returns on the S&P 500.

Driven by underperformance in 2011 and 2014, CGW has returned 3.7% annually since 2008, compared to 7.4% for the S&P 500.

	Annual Returns								
	2008	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*CAGR*
CGW - Market Price	-40.5%	32.1%	14.5%	-7.8%	21.1%	26.2%	3.3%	-1.7%	3.7%
CGW - NAV	-39.8%	31.4%	15.0%	-7.5%	20.2%	26.2%	3.9%	-1.8%	3.9%
S&P 500	-36.6%	25.9%	14.8%	2.1%	15.9%	32.2%	13.5%	1.4%	7.4%

(https://i2.wp.com/vintagevalueinvesting.com/wp-content/uploads/2016/01/CGW-Annual-Returns.png?ssl=1) *Click chart to enlarge.*

The Guggenheim S&P Global Water Index ETF is currently trading at a P/E ratio of 22.6x, which is above the stock market's long-term mean (http://www.multpl.com/) of 15.6x but more or less in line with the 21.2x that the broader S&P 500 index is currently trading at.

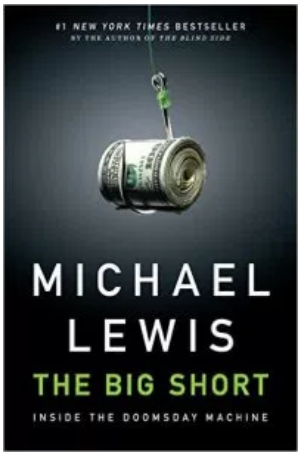
SUMMARY

So is the Guggenheim S&P Global Water Index ETF the right investment for you? I'm afraid I can't answer that question – only you can decide.

But if you believe in the thesis that water and water-related businesses are going to play more and more of a critical role in the future of this world, then the Guggenheim S&P Global Water Index ETF could be one investment that you might want to dive right into.

Want to learn more about Dr. Michael Burry? Check out The Big Short: Inside the Doomsday Machine (http://amzn.to/1nqTWAd) by Michael Lewis and The Big Short (http://amzn.to/29mpCB6) movie.

And be sure to check out the Official Water Stock Guide for Q1 2017 (https://vintagevalueinvesting.com/40-best-water-stocks-buy-right-now/) and get started investing in water today!



(http://amzn.to/2j974bD)

THE BIG SHORT: INSIDE THE DOOMSDAY MACHINE (HTTP://AMZN.TO/2J974BD)

BY MICHAEL LEWIS

The #1 New York Times bestseller: a brilliant account—character-rich and darkly humorous—of how the U.S. economy was driven over the cliff. Michael Lewis proves yet again that he is the finest and funniest chronicler of our times.

(http://amzn.to/2iJ4B8W)