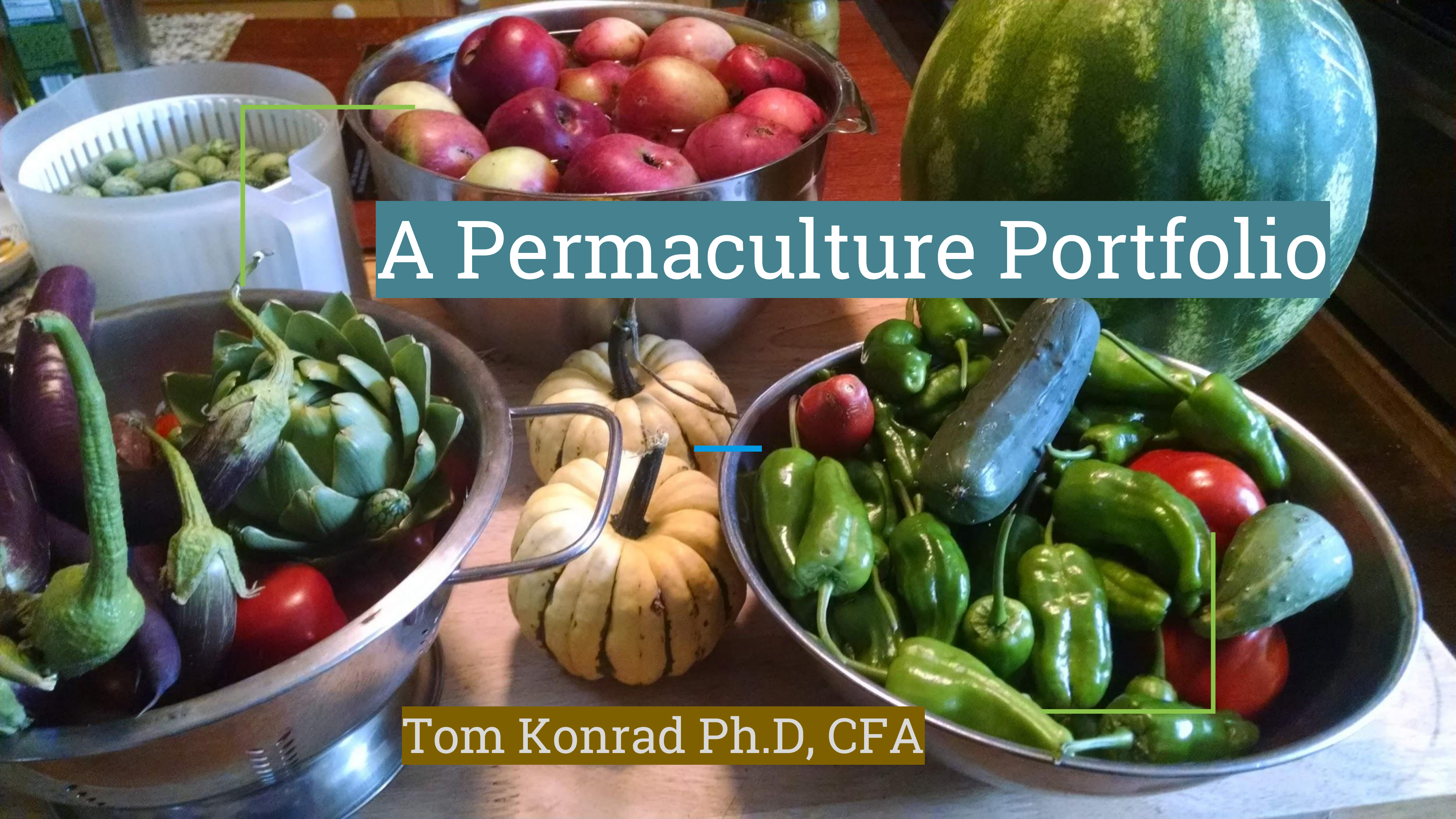


A Permaculture Portfolio

Tom Konrad Ph.D, CFA

Disclaimers

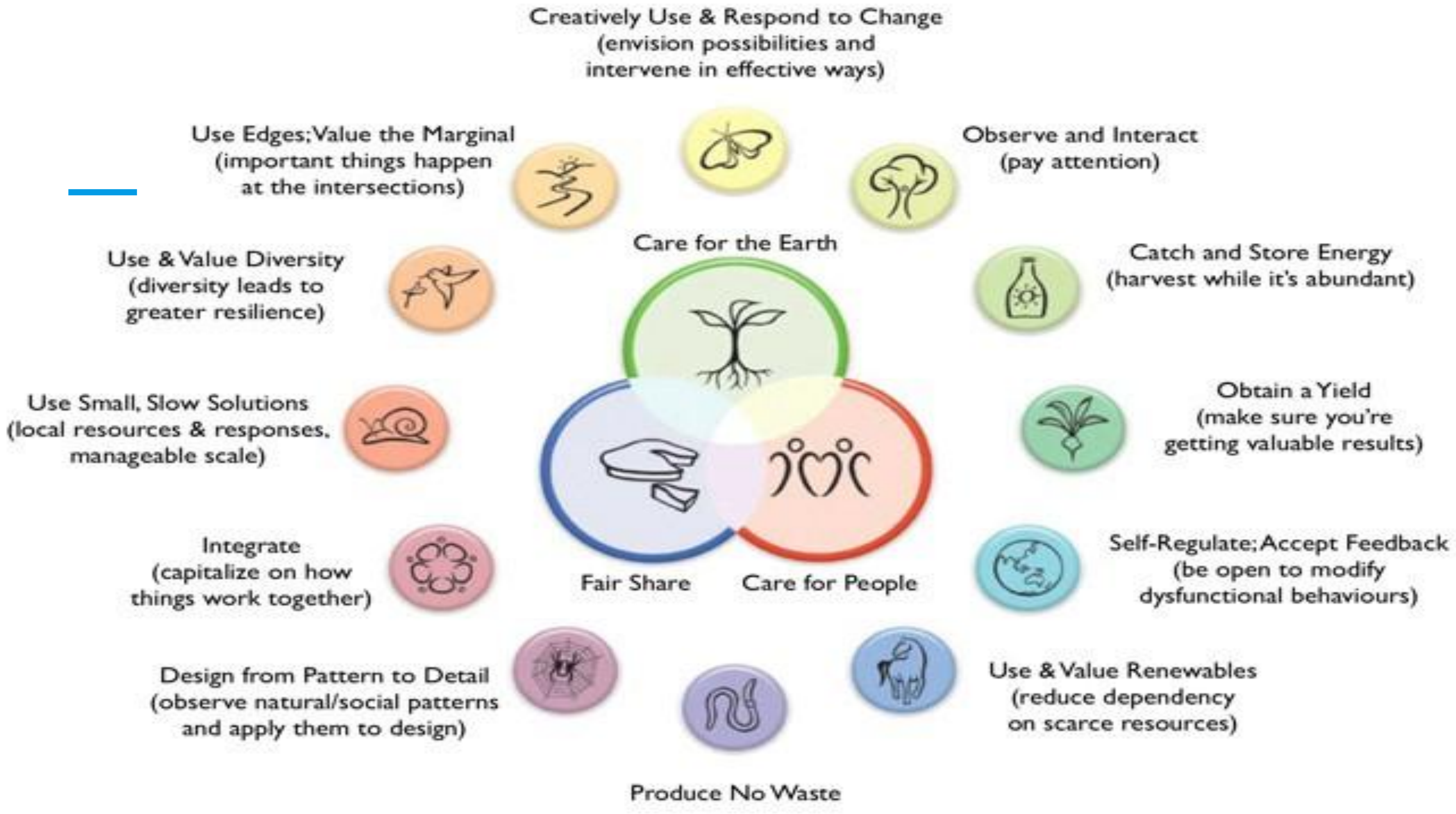
The information in this presentation is intended for educational purposes only.

It is not investment advice, and I am not an investment advisor.

Information contained herein has been obtained from sources believed to be reliable, but not guaranteed.

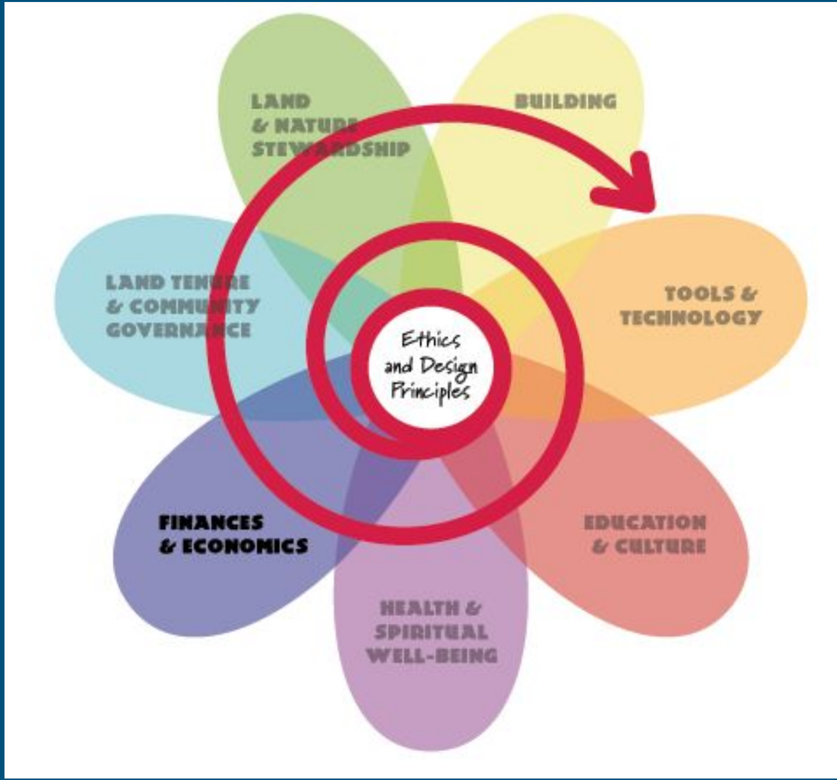
About Tom Konrad

- Managing stock market portfolios since 1999
- Editor at AltEnergyStocks.com since 2007
- Managed Green Global Equity Income Portfolio (GGEIP) since inception Dec 2013
    - 15.0% compound annual total return (benchmark 10.2%)
- Chartered Financial Analyst charterholder
- Ph.D. in Math
- Avid organic gardener - Permaculture novice
- Chair, Marbletown Environmental Conservation Commission since 2014


Creatively Use & Respond to Change
(envision possibilities and
intervene in effective ways)
Use Edges; Value the Marginal
(important things happen
at the intersections)
Observe and Interact
(pay attention)
Care for the Earth
Use & Value Diversity
(diversity leads to
greater resilience)
Catch and Store Energy
(harvest while it's abundant)
Use Small, Slow Solutions
(local resources & responses,
manageable scale)
Obtain a Yield
(make sure you're
getting valuable results)
Integrate
(capitalize on how
things work together)
Fair Share
Care for People
Self-Regulate; Accept Feedback
(be open to modify
dysfunctional behaviours)
Design from Pattern to Detail
(observe natural/social patterns
and apply them to design)
Use & Value Renewables
(reduce dependency
on scarce resources)
Produce No Waste

Thanks

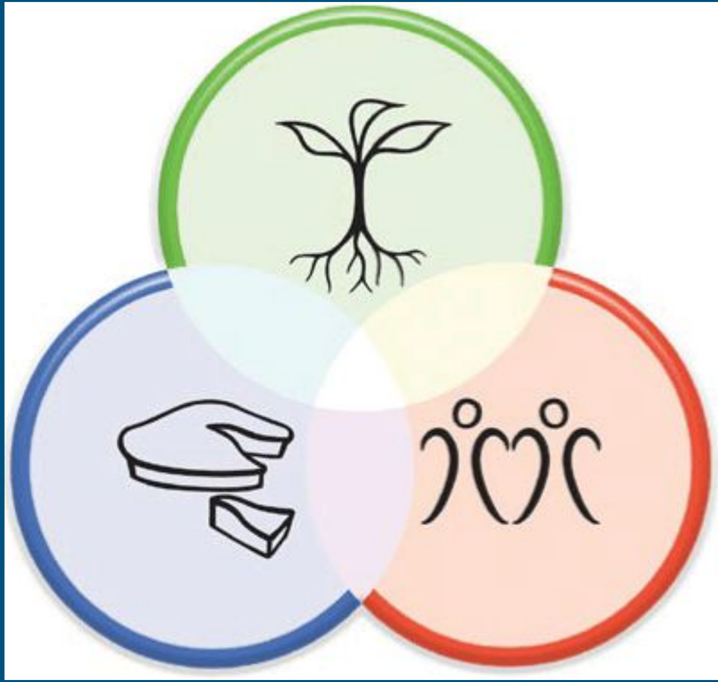
I would like to thank PermaculturePrinciples.org for the use of his graphics in this presentation.



Ethics - E and S, but not G

For larger companies, there are services that publish ESG- Environmental, Social, and Governance scores. The smaller companies I favor often have to be evaluated individually.

- Care for Earth - Environmental score
- Care for People - Social score
- Governance is useful, but not the same as Fare Share.



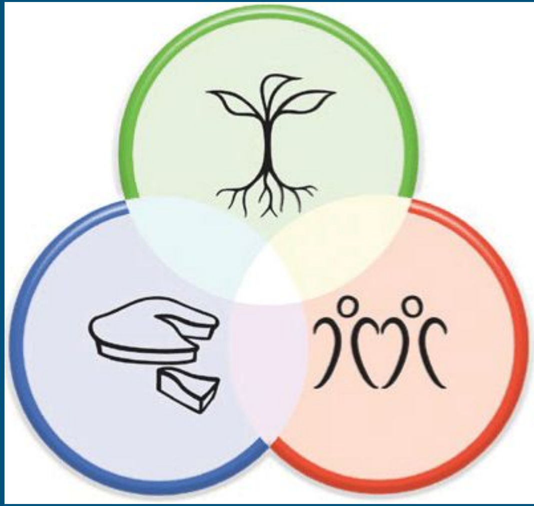
Care for People - Fair Share

At some point, enough *is* enough.

In our society, having enough money is frees you from many worries, and gives you the freedom to choose how you spend your time.

What you do with that time is what gives life meaning. Caring for people is a very good choice.

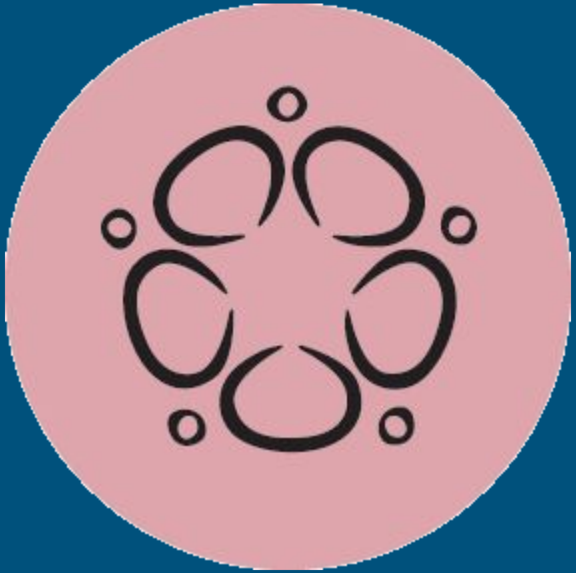
Mutual funds or stocks



ESG mutual funds are like commercially grown organic food:

- They are better for people and the planet, but could do *much* better.
- They may be better for your wallet, but studies are inconclusive.
- They cost more than conventional funds, but are probably worth it.
- They are the only practical green option for most people.

Integrate rather than segregate



Good financial planners emphasize that we should look at our portfolio in the context of all our assets, liabilities, and earning power.

- Lower ongoing costs such as debt, energy bills, fuel costs, food costs.
- If your future earning power is tied to the well being of your employer or industry, don't invest too heavily in the stock of that company or industry.
- Invest in your own health

Integrate rather than segregate

Reduce ongoing costs

- Debt: It usually is a good idea to pay down debt before stock or bond market investing.
- Home energy upgrades:
  - With current technology, home solar and energy efficiency upgrades are often better investments than the stock market.
  - A used electric vehicle will save you thousands of dollars a year in fuel costs.
- Grow your own food

Self-Regulate / Accept Feedback

Learning from your mistakes is the only way to become a good (or better) investor.

When you buy a stock, you should always write down why you bought it. Then, if it falls, ask yourself is the reason you bought it still holds. If it does, you may want to buy more.

If the stock has fallen because you were wrong, it's time to sell, figure out why you were wrong, and how to avoid the mistake in the future.

Self-Regulate / Accept Feedback

One of the reasons I write is for valuable reader feedback. One of the quickest ways to find out I am wrong is to put an article out and listen to the commenters that may know more than I do.

I recently made a bad call about microinverter company Enphase (ENPH.) After arguing back and forth with a reader, I changed my mind and reversed my position quickly enough that I made a little money despite being wrong.

Observe and Interact

There’s an old investing adage “Invest in what you know.”

It’s often misinterpreted.

No: Just because you like/use a product does not mean the company that makes it is a good investment

Yes: if you have industry expertise, you should be able to know what news/company announcements, etc. are meaningful to the business.

Obtain a Yield

Investing only in stocks that pay (and are able to continue to pay) a healthy dividend is a tried-and-true investment strategy that lowers risk and can still produce high returns in the long term.

Dividend investing is my specialty- that's the "Equity Income" part of my Green Global Equity Income Portfolio.

Design from patterns to details

- Look for sectors that will benefit from long term trends (Tackling climate change, resource scarcity, improving technology.)
- Find companies in those sectors that are already profitable (produce a yield) but can still benefit from the trend.
- Don’t buy so many companies that you can’t observe and interact (less than 30 for me)

Catch and Store Energy

As in growing things, timing matters. Plant summer crops in the spring, cool weather crops in late summer, etc.

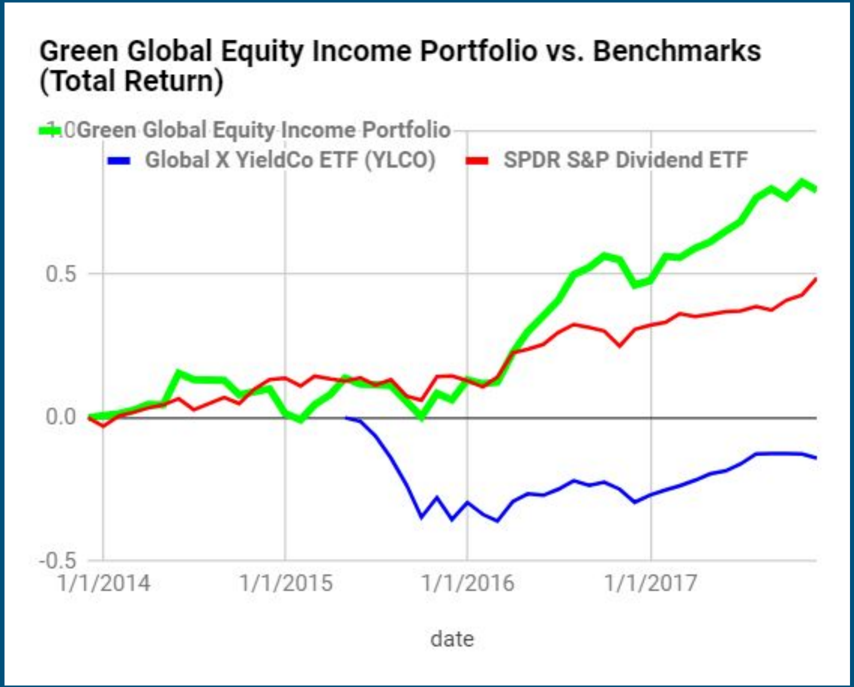
In investing, timing matters. Understand market and investment cycles. Selling stocks when they are popular and buying when out of favor can avoid large losses and greatly increase returns. (It’s also very hard to get right.)

Catch and Store Energy

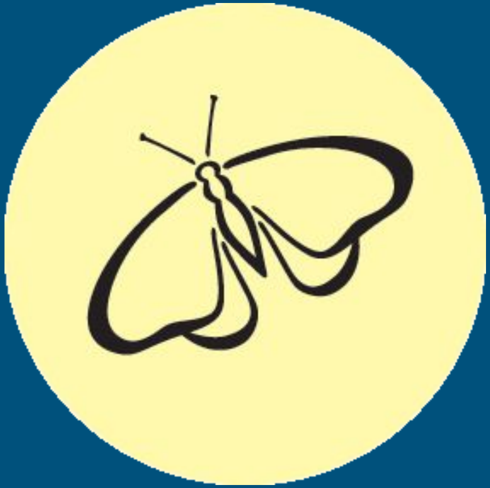
I track investment cycles by paying attention to investment sentiment. Example: the 2016 Yieldco bubble.

I use a combination of my sense of general investor enthusiasm and valuation.

Broad market (Bull/Bear) cycles can be followed the same way. CAPE ratio.



Creatively use and respond to change



Investing is all about the future.

Stock prices reflect the consensus of what investors believe about a company’s current value and future prospects. Understanding the likely effects of changing circumstances and events, and reacting accordingly are the key to delivering superior returns.

It is also one of the most rarest skills and most difficult to acquire of investment skills.

Use small and slow solutions

Look to smaller, lesser known, and “boring” companies for better risk adjusted returns.

- Large and well known companies have more analysts following them- it’s hard to get an information edge if there is more competition.
- Flashy, high profile companies draw investors, and are therefore often overpriced. Look for companies that do necessary things that most people never think about.

Small Solutions

Examples of energy companies to avoid:

- Tesla (TSLA)
- Solar manufacturers (FSLR, SPWR, JKS, etc.)
- Anything with “Blockchain” in it.

Examples of industries I like:

- Sustainable finance
- Recycling
- Energy Efficiency

These categories change over time.

Slow Solutions: Liquidity

Speed in the stock market is called "Liquidity."

Liquid stocks trade high volumes of shares every day and are widely used by mutual funds, hedge funds, and (especially) day traders.

Small investors (and that can mean assets into the tens or hundreds of millions) can take meaningful positions in relatively *illiquid* stocks without significantly moving the stock price.

These stocks generally earn higher returns (the illiquidity premium) and are less vulnerable in a crisis like 2008 when everyone is trying to flee the market.

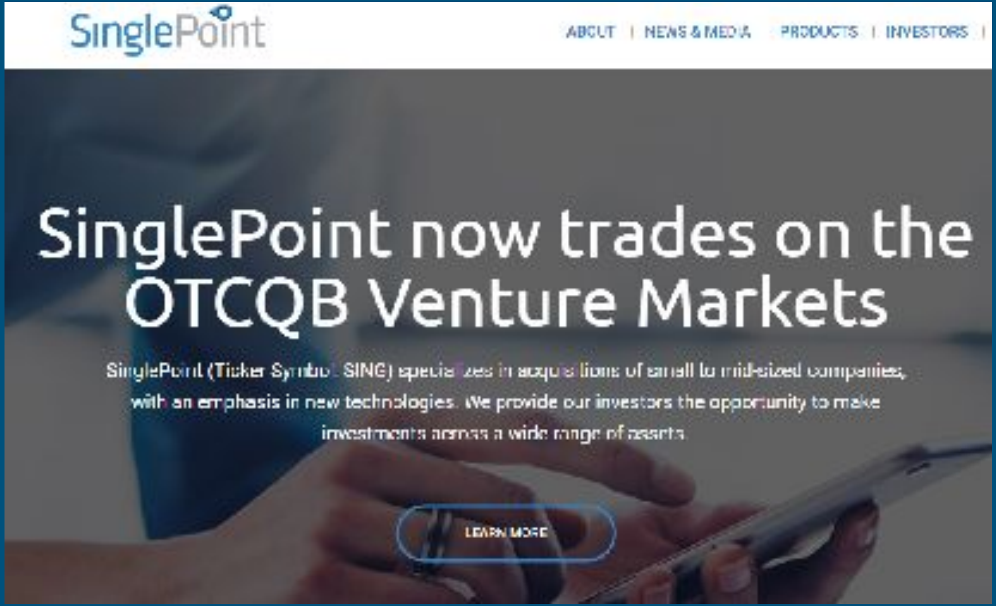
Most Small Companies Are Not Good Invstements (Ex: SinglePoint)

Buying up a bunch of unrelated, “hot” businesses:

- Cannabis
- Solar
- Blockchain
- Sports Betting

Losing money- needs to raise capital:

- $62,000 cash on hand
- Losing $1,600,000 annually.
- New OTC listing



Use and Value Diversity

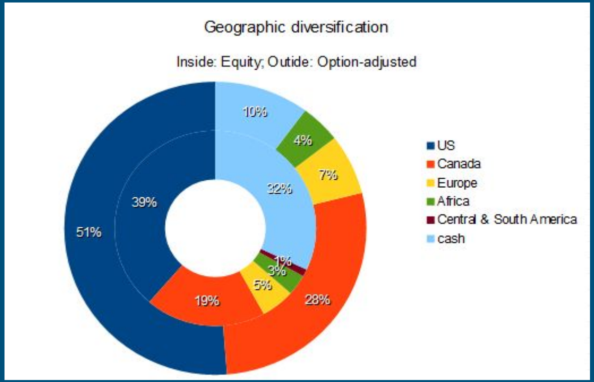
Diversification is arguably the first law of investing.

Even within clean energy, there are multiple technologies and industries that have little correlation:

Energy efficiency, electric vehicles, recycling, biofuels, alternative transportation, the sharing economy, smart buildings, etc.

By sampling all of these and limiting the riskiest ones to a small portion of your portfolio, you can reduce overall risk at little cost.

Use and Value Diversity



Diversification true diversification should not be confused with simply holding a large number of stocks.

In times of market crisis, all stocks tend to fall together, especially the large, liquid stocks favored by mutual funds and hedge funds.

Seek diversification by geography as well as industry.

Business geography is at least as important as where the company is headquartered.

Use edges and value the marginal

Different and obscure financial structures (REITs, MLPs, Preferred stocks, convertible securities) can greatly increase the benefits of diversification.

Stocks in unique companies, especially ones new to the market, that do not have any peers are often undervalued because they do not lend themselves to easy comparisons.

EXAMPLES: Enviva (EVA), Green Plains Partners (GPP), Hannon Armstrong (HASI), InfraREIT (HIFR), New Flyer (NFYEF) and Algonquin (AQN) during conversion.

Use & value renewable resources & services

A few of my current renewable energy holdings

- Pattern Energy Group (PEGI)
- Hannon Armstrong Sustainable Infrastructure (HASI)
- Terraform Power (TERP)
- Atlantica Yield (AY)

Produce No Waste

Recycling and companies turning waste into energy or useful products are also interesting investments.

Current holding: Covanta (CVA)

Watch list companies:

- Waste Management (WM)
- Schnitzer Steel (SCHN)

A Few Stock Picks

Pattern Energy Group (PEGI)

Atlantica Yield (AY)

Brookfield Renewable (BEP)

NRG Yield (NYLD, NYLD/A)

Hannon Armstrong Sustainable Infrastructure (HASI)

Seaspan (SSW, SSW-PH, SSW-PG)

Green Plains Partners (GPP)

The Renewable Infrastructure Group (London: TRIG)

TransAlta Renewables (TRSWF)

Covanta Holding (CVA)

Other Diversifiers

- Pay Down Debt
- Insulation
- Air Sealing
- Heat pumps
- Solar

Contact

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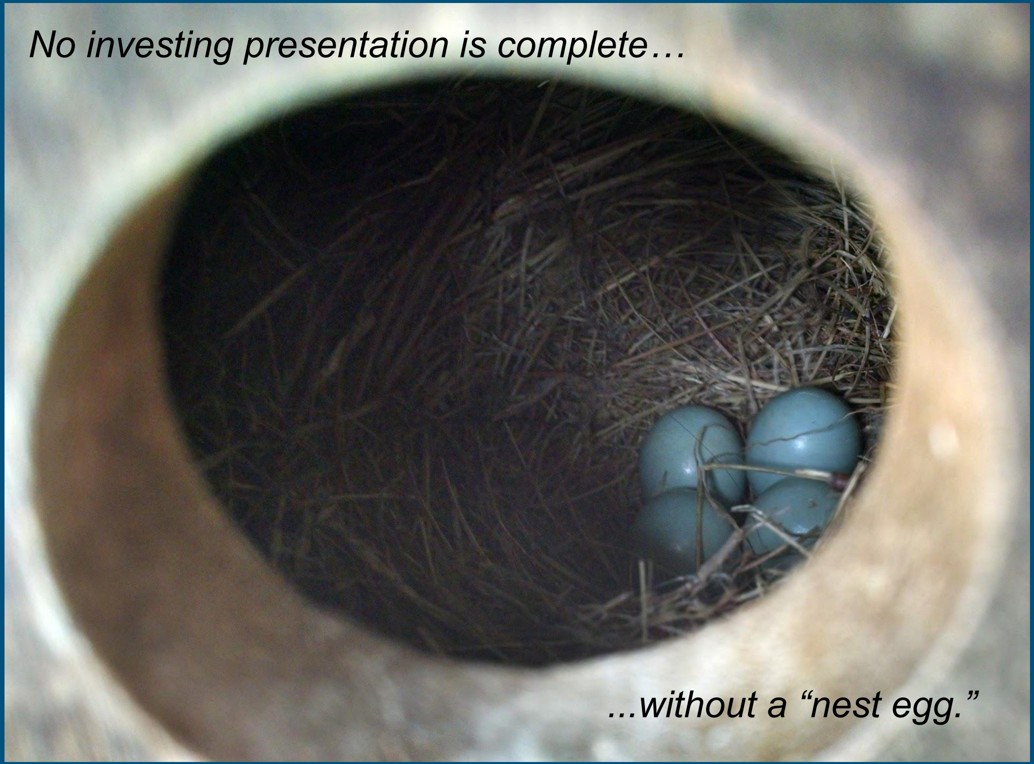

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