Natural Capitalism Solutions

FINANCING A FINER FUTURE

A by L. Hunter Lovins
presentation @ NCS 2017
Conservative Shift?

I do not care how to appeal to conservatives.

Yes, market mechanisms are very powerful, but much of the neoliberal agenda is profoundly anti-human and based on flawed assumptions.

Notice what they did well, then replicate it for human centered values.

To retake politics we need a new narrative.

Transform finance
Moody’s credit-rating agency: The global commitment to cut carbon pollution will “reshape the global financial landscape in terms of investment flows into clean energy”. $114 trillion in finance will be needed over the next 12 years for the clean energy transition.
Economic Efficiency

What's wrong with this picture?

Desired Outcome

Finance

Economy

Planet
We have all the technologies we need to solve all the challenges facing humanity.
How fast can a shift to renewables happen?

World will be 100% solar by 2030, says Tony Seba, Stanford Professor and Silicon Valley entrepreneur,
2015 – Clean Disruption of Energy & Transportation

- The technologies, skills, organizations, and culture of the industrial revolution have run out of steam
- They are being replaced by the technologies, skills, organizations, and culture of the "Silicon Valley" technology revolution

1. Solar
2. Energy Storage
3. Electric Vehicles
4. Self-Driving Vehicles

- Generation, Storage, and intelligence are pushed to the edges
  - Distributed, Mobile, grid-independent
- Bits + photons are replacing atoms (coal, nukes, gas, oil)
  - Electric + ICT replacing combustion

Major industrial economy now fully engaged in transition to renewables.
Dubai commissioned 800 MW solar at ~2.9¢/kWh – then 2.4¢
National Bank of Abu Dhabi: Even at $10 per barrel, oil can't match solar on cost.
More than 1,000 cities committed to 100% renewable energy – urban environments responsible for 70% GHG and energy consumption.
Green Bonds

Apple continues to go solar.

CEO Tim Cook announced $850 million to purchase a 3k acre solar panel farm being built by First Solar.

After Child in Chief’s Paris pullout $1.5 billion green bond
How the world has changed

Tesla is valued at more than GM – despite producing 300 times fewer cars.
It’s a battery company
Aliso Canyon Battery deployment
If Tony is right, and I believe he is, we are looking at the end of the coal, oil, gas, uranium, nuclear, utility, and auto industries within 10 years, with the collapse starting in the next five years.

This will be the biggest/fastest industrial transformation in history.

Fitch report Oct 2016: $1.3 trillion oil assets at risk of being stranded
“History of the energy industry tells us that change is never gradual. New technologies are embraced at the expense of incumbents.”
Between 60 to 80% of coal, oil & gas reserves of publicly listed companies are “unburnable” to keep within the 2°C limit.

And we continue to search for more....
Consequences: Financial Overshoot

The $22 Trillion Carbon Bubble

- Burned 1850-2000: 1500 GtCO2
- Burned 2000-2010: 321 GtCO2
- Proven Fossil Fuel Reserves: 2795 GtCO2
- Unburnable: 2230 GtCO2
- Burnable: 565 GtCO2

On our present pathway, humanity is expected to burn through proven fossil fuel reserves by 2050, with global warming greater than 5°C (9°F) likely. To have an 80 percent chance of keeping warming below 2°C, 80 percent of proven reserves need to stay unburned. The present estimated value of these civilization-threatening reserves is approximately $22 trillion.

Sources: Meinshausen et al. 2009; Allen et al. 2009; Sokolov et al. 2009; Carbon Tracker Initiative 2011. Carbon reserves as of the start of 2011; since then approximately 50 gigatons of carbon dioxide have been burned. Total fossil reserves are projected to be four times larger than proven reserves, and exploration for new reserves continues.
How to transform finance

The Fortune 1000 drives about 50% of the global economy. Their cap-ex budget drives half of global impact.
Nearly two-thirds of carbon dioxide & methane emissions can be attributed to 90 entities.

Half of this has been emitted since 1986

"Where capital goes over the next 15 years is going to decide whether we’re actually able to address climate change and what kind of a century we are going to have”

Christiana Figueres UN FCCC
First true fossil divestment was Matt Patsky’s Trillium Asset Management – 35 years ago

“It is entirely plausible, even predictable, that continuing to hold equities in fossil fuel companies will be ruled negligence.”

- Bevis Longstreth, former Commissioner of the Securities and Exchange Commission
Significance of Oil and Gas Investments

- Late 1980’s seven of top ten companies in SP 500 were oil and gas
- Today, only one – Exxon Mobil
- Exxon from 70’s to early 90’s drove the Standard and Poors Index
- From late 1990’s to 2014 led the index, no longer dominated
- Since 2014 Exxon has lagged the SP 500
- Most institutional funds hold between 1.5% and 2.0% of equities in Exxon. More in private equity and bonds.
Crude Oil Prices - 70 Year Historical Chart
## Exxon Performance 2006-2011

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<tr>
<th></th>
<th>Trajectory</th>
<th>Peaks and Troughs</th>
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<tbody>
<tr>
<td><strong>Revenues</strong></td>
<td>Down</td>
<td>2011: $486 billion; 2015: $268 billion</td>
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<tr>
<td><strong>Costs of Production</strong></td>
<td>Up</td>
<td>Conv. +100%; Oil Sands: 50%; Syn: +33%</td>
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<td><strong>Net Income</strong></td>
<td>Down</td>
<td>2008: $45 billion; 2015 $16 billion</td>
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<td><strong>Debt</strong></td>
<td>Up</td>
<td>Average 2006-2013: $8 bil; Today: $29 bil</td>
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<td><strong>End of Year Cash</strong></td>
<td>Down</td>
<td>2007:$33.98 bil, 2015: $3.7</td>
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<tr>
<td><strong>Capital Investment</strong></td>
<td>Down</td>
<td>2013: $34 billion; 2015: $26 billion</td>
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Free cash flow to equity does not cover shareholder payouts

Exxon: Free Cash Flow to Equity to Total Share Distributions (2011-2015)

Free Cash Flow to Equity
Total Share Distributions
How Should Fiduciaries Respond?

• For large pension funds Exxon holdings between: $500 million and $2 billion in equities.
  – 2% of equity investment

• They also hold corporate debt and private equity. Wide variations.

• Bonds are heavily into fossil fuels

• What’s inspiring you to underperform?
Deutsche Bank: solar costs, already very competitive, to fall 40% in next four years.

Grantham: Before 2030, investment growth in fossil fuels will have stopped.
Divestment

Heirs of oil magnate John D. Rockefeller

Decided Sept 2015
to divest their family
fund of fossil-fuel
Investments

$3.4 trillion pledged to be
divested before Paris
Climate COP.

$5 trillion and rising
Saudis announce $2 trillion mega-fund to finance transition out of oil – plan to be world’s largest solar exporter

**Buying Power**

With $2 trillion in assets, the megafund could buy the four largest public companies in the U.S. — with a bit left over.

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<th>Company</th>
<th>Market Capitalization</th>
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<tr>
<td>Apple</td>
<td>$602 billion</td>
</tr>
<tr>
<td>Alphabet (Google)</td>
<td>$514 billion</td>
</tr>
<tr>
<td>Microsoft</td>
<td>$434 billion</td>
</tr>
<tr>
<td>Berkshire Hathaway</td>
<td>$348 billion</td>
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Source: Data compiled by Bloomberg, market capitalization figures as of 10 a.m. ET, April 1.
2014 CDP report: S&P 500 companies that build sustainability into their core strategies outperform those that fail to show leadership. Corporations that are actively managing and planning for climate change secure an 18% higher return on investment (ROI) than companies that aren’t 67% higher than companies who refuse to disclose their emissions.
FACILITATING THE LARGE SCALE RESTORATION OF THE WORLD'S GRASSLANDS
Finance As Usual: 21st Century risks
Finance As Unusual: Mentors, Partners and Allies are Everything
ETF’s growing at 15–30% annually over next 10 years.

More than 500 institutions, with net assets in excess of $5 Trillion, have made divestment commitments.

While there are more than 1,700 ETFs, only 30 are targeted to values-oriented investors. None truly fossil free.

Women:
2% of Finance CEO’s are Women
Women CEOs outperform the S&P by 3xs.

Millennials:
85% of Millennials want impact from all their investments—they will inherit ~ $30 trillion over next decade

Opportunity: Change Finance, Change Everything Else
A finer future is possible
A world that works for 100% of humanity will arise from ensuring the dignity of all

The future is already here, it’s just not widely distributed.

There is enormous wealth to be made transforming how we deliver energy, grow our food, finance our industries....

A successful transition requires an inspiring vision of a future of greater wellbeing, deep engagement with nature and each other. This will overcome resistance to change because people want to belong to it

We CAN redefine and reform an economy that seeks only to maximize shareholder value to an economy in service to life
Now the challenge is to build a finer future: a world that works for 100% of humanity
Natural Capitalism Solutions

Visit: www.natcapssolutions.org
A recent paper in Nature showed that to keep warming below 2 degrees C, emissions reduction is necessary, but that ways must be found to capture carbon and return it to the soil.

“A mere 2 percent increase in the carbon content of the planet’s soils could offset 100 percent of all greenhouse gas emissions going into the atmosphere.”

—DR. RATTAN LAL, OHIO STATE SOIL SCIENTIST
Gabe Brown numbers
Runs cows, sheep, broiler hens ($5 a pound for these) corn costs him $1.35 to produce, it’s now selling at ~$3.50

Cannot keep up with demand

Started in 1993 with shallow soils, 1.3% organic matter.

In ‘95 started no-till, diversifying cash crop, using rotations. In 1997 focused on cover crops. In 2006 planting multi-species cover crops, mob grazing and different livestock species.

2013, have plot with 11.1% organic matter – can increase soil health fast

If healthy soil will have clean water, clean air, healthy plants animals and people – healthy ecosystem
Modern industrial agriculture has not ended hunger and is particularly vulnerable to climate change.

Small-holder peasant farmers could easily feed the populations of developing countries with existing labor-intensive, environmentally friendly agricultural technologies—were it not for corruption, extreme inequality, and misguided attempts to impose inappropriate “modern” crops and techniques.
EVERGREEN DIRECT INVESTING

CO-CREATING THE

REGENERATIVE ECONOMY

www.capitalinstitute.org
Global 1000 firms & many smaller imitators collectively hold the fate of humanity in their hands. They are trapped in the grip of short-term financial speculators and passive index investors, neither of whom are part of the, regenerative financial system we need.

Imagine big pension funds & endowments investing in and genuinely owning, with like-minded steward investors, with all associated responsibilities and benefits, 10 or 20% of real enterprises over the long run.
Financial obligations met out of enterprise cash flows, rather than “total return” of speculative portfolios of securities that are at the whim of boom-bust cycles caused by the excess of (their own) speculative capital in the system.

There’s no place for self-serving interests of predatory Wall Street agents who extract endless and egregious fees though needless and non-value adding transactions: trading shares in a speculative frenzy, buying, selling, merging, leveraging, and recapitalizing companies.
YOUR GREED IS HURTING THE ECONOMY!

THE $26.7 BILLION OF BONUSES WALL STREET BANKS PAID OUT LAST YEAR WOULD BE ENOUGH TO MORE THAN DOUBLE THE PAY OF EVERYONE OF AMERICA'S 1,085,000 FULL-TIME MINIMUM WAGE WORKERS.
The 10 largest banks in the United States are bigger today than they were before a taxpayer bailout following the 2008 financial crisis.
Inequality

Almost half of the world’s wealth now owned by just one percent of the population.
NASA funded the HANDY Study:
Is Industrial Civilization Headed for Irreversible Collapse

The study found:

“Cases of severe civilisational disruption due to "precipitous collapse - often lasting centuries - have been quite common.”

Population, Climate, Water, Agriculture and Energy were the key interrelated factors that explain civilisational decline, and may help determine risk of collapse today.

The study sought to understand long-term behavior not make a short term prediction, but its warning is stark.
Two crucial social features drove collapse:

“...the **stretching of resources** due to the strain placed on the ecological carrying capacity"; and

“...the **economic stratification** of society into Elites [rich] and Masses (or "Commoners") [poor]"

These social phenomena have played “a central role in the character or in the process of the collapse,” in all such cases over “the last five thousand years.”
The study concluded:

Under conditions "closely reflecting the reality of the world today... we find that collapse is difficult to avoid."

But it observed:

"Collapse can be avoided and population can reach equilibrium if the per capita rate of depletion of nature is reduced to a sustainable level, and if resources are distributed in a reasonably equitable fashion."
Poverty is not an accident. Like slavery and apartheid, it is man-made and can be removed by the actions of human beings.

- Nelson Mandela
Natural systems are sustainable because they are Regenerative.

AN ECONOMY
Place - Culture - Enterprise - Government - Commons

CONVENTIONAL
DEGENERATING
Mechanistic Design
Reductionist Thinking
Parts

GREEN

SUSTAINABLE

RESTORATIVE

REGENERATIVE

LESS
Energy / Materials
Required

MORE
Energy / Materials
Required

Holistic Thinking Patterns
Natural System Design

Derived from Bill Reed, Regenesis Group
In New York City

MBA in Sustainability

Low residency

High impact
Refusal to report quarterly

The ultimate cost of short-termism was the financial crisis of 2008-9. 'Too many investors have become short-term gamblers: the more fluctuations in share price they can engineer, the better it is for them. It is not good for the companies or for society, but it is influencing the way firms are being run, all the same.... To drag the world back to sanity, we need to know why we are here. The answer is: for consumers, not shareholders. If we are in synch with consumer needs and the environment in which we operate, and take responsibility for society as well as for our employees, then the shareholder will also be rewarded.'

Paul Polman
Unilever’s Sustainable Living Plan:

- Cut environmental impacts in half by 2020,
- Source 100% of agricultural materials sustainably, and
- Help more than 1 billion people improve their health and well-being.
16 February 2017
3G and Warren Buffet launch raid. Unilever shares soared 13%

17 February 2017
Paul Polman rejects $143 billion bid

On one side Unilever CEO Paul Polman champions sustainable growth in earnings to raise long-term shareholder value. On the other side KHC and its Brazilian owner 3G advocate maximizing short-term earnings to increase near-term valuation.
Unilever’s purpose driven brands are twice as profitable as others

Responsible for half of the company’s 2015 profit

Stock had been at all time heights
Thomas Berry says:

“We are in trouble just now because we do not have a good story....

The old story - the account of how the world came to be and how we fit into it...sustained us for a long period of time. It shaped our emotional attitudes, provided us with a life purpose, energized action. It consecrated suffering, integrated knowledge, guided education....

We need a (new) story that will educate man, heal him, guide him”
Each person must see himself as though the entire world were held in balance and any deed he may do could tip the scales

Maimonides
...there is no more strategic issue for a company, or any organization, than its ultimate purpose. For those who think business exists to make a profit, I suggest they think again. Business makes a profit to exist. Surely it must exist for some higher, nobler purpose than that.

— Ray Anderson —
Ray Anderson’s commitment to sustainability enhanced every aspect of shareholder value.
Who is responsible?
Is sovereignty obsolete?
If we insist on ruining the planet, we have to stop calling ourselves an intelligent species.
Dr. Sylvia Earle:

“What we do in the next ten years is more important than what humanity does in the next 10,000 years”
What do we want the earth to be like fifty years from now? Let’s do a little dreaming.

Aim high! Navigators have aimed at the stars for centuries. They haven’t hit one yet, but because they aimed high they found their way.
People matter:

- Alliance focused on what people need and want to innovate and produce
- Increased office capacity from 120 people to 260
- Doubled revenue
- Increased appraised value from $6 million to $14 million
- Held events for 30,000 people last year, all of which spread the mission – politicians who want the environmental community all came to the Alliance
Design for human productivity

We need to design for well-being

We are only getting a clue on how to do this

Well-being is where greenbuilding was 15 years ago – if you sold lights, then CFL’s were the solution, if you sold AC then HVAC was the solution.

The industry now sells standing desks and non-toxic furniture and calls it well-being.
The Sustainable Development Goals may be best met by focusing first on how we feed everyone on earth.
“What would you suggest to fill the dark, empty spaces in my soul?”
Normal is getting dressed in clothes that you buy for work and driving through traffic in a car that you are still paying for - in order to get to the job you need to pay for the clothes and the car, and the house you leave vacant all day so you can afford to live in it. ~ Ellen Goodman