

## How to Make Money and Save the World

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<http://forum-network.org/lecture/how-make-money-and-save-world>

Tonight we are proud  
to continue this tradition  
with the 2008  
Frederick G. Corneel Memorial Lecture  
with Gary Hirshberg  
and Nancy Koehn.  
Tonight's program *Stirring It Up,*  
*How to Make Money and Save the World.*  
My father Frederick Corneel  
was a long time board member  
and I think he would have very  
much approved of tonight's program.  
He was a corporate  
and estate tax lawyer  
and of course lawyer is a dirty word  
to many people  
but I came to see it differently  
learning from him  
and I can remember many nights  
he would come home  
and be excited because he had done  
some very wealthy person's will  
and had convinced them  
to give millions of dollars  
to set up a foundation  
to help a charity  
and to of course save them taxes  
but also to do the right thing  
in the world so he was  
a capitalist with a conscience.  
I think that's what you all...  
Yes exactly.  
Introducing Mr. Hirshberg and  
moderating tonight's public conversation  
will be Professor Nancy Koehn. She's  
an authority on entrepreneurial history  
and she is  
the James E. Robison Professor  
of Business Administration  
at Harvard Business School.  
Her research focuses on  
entrepreneurship, leadership  
and connecting with customers  
in the information revolution.  
Her most recent book 'Brand new,

how entrepreneurs earn consumers' trust  
from Wedgewood to Dell'  
examines 6 entrepreneurial visionaries  
who have created powerful brands  
and best of class companies  
in moments of great change.  
She's now writing a book about Lincoln  
and the life lessons  
we can learn from his journey.  
Koehn consults with many companies  
and speaks frequently  
before business leaders  
on a range of subjects  
including leading in turbulent times,  
very apropos,  
the power of strong brands,  
visionary entrepreneurs  
and learning from history.  
She's appeared on Good Morning America,  
the Newshour  
with Jim Lehrer,  
CNN's Moneyline  
and many other television programs.  
She's also a frequent commentator  
on National Public Radio.  
As I now turn the microphone  
over to her  
please help me welcome  
Professor Nancy Koehn.  
Thank you very much.  
Well it's just a great pleasure  
and a genuine privilege to be here,  
not only in this place,  
as part of this very important  
collective, the Ford Hall Forum,  
but also just here  
at this moment in history.  
You know I'm a historian  
by training  
which means I get paid  
to read other people's mail,  
but it also means  
that I get to think  
almost now by habit  
or by instinct

about the large sweep of time  
and the cycles of events  
and human agency and larger forces  
as they roll through our lives  
and this is a really important moment.  
It's important  
because of the extraordinary  
political happenings of the week,  
but it's important also in terms  
of the larger forces behind that.  
You know as I age,  
and I'm aging as we speak,  
I've gotten very interested  
in the stories behind the tales  
and the myths  
behind popular movies,  
and the one I'm currently,  
you know, living with is the Matrix.  
Many of you may know that movie.  
It looks like a sci-fi movie  
with Keanu Reeves in dark leather  
and with big guns  
and some gross moments  
but it's actually really a great myth  
about what is the reality  
of a given moment  
and how much of that reality,  
the truth do we really see,  
and if you step back  
and think about this week  
and all the things that led up to it,  
there's a great energy,  
a great set of forces,  
economic, social, international,  
psychic, spiritual, environmental,  
all whirling around this moment,  
all coalescing right now  
and it really is one of those moments  
when individual impact and  
the leadership of people like Gary  
has great great power,  
even more power than it had  
in the footsteps and the miles  
that he's traversed up to this moment  
so I just think that this is  
an incredibly powerful moment.  
We said on the conference call today,  
you know the future has arrived.  
The future is now,  
and Gary said yes,  
and it really,  
the 20th century ended on Tuesday  
and people are awake  
in a new kind of way

and the realm of possibility,  
for all the media cynicism  
and for all the media's crankiness  
and carping,  
people are awake and there is  
an extraordinary idealism out there  
that's waiting to be tapped.  
That's part of what we saw  
in the elections on Tuesday.  
So in that context  
it is again particularly  
particularly apropos  
to introduce  
Gary Hirshberg.  
You all know him  
as the founder of Stonyfield Yogurt  
and how many of you eat  
Stonyfield regularly?  
So you got loyal customers,  
very loyal customers.  
You probably also may know his very  
interesting and delicious food chain  
natural food chain O'Naturals  
but Gary has done  
a whole lot of other things  
besides take a seven cow organic farm  
and build it to a business  
that you know,  
earns well over 300 million dollars  
in sales.  
He's also been an absolute pioneer,  
what I call an entrepreneurial leader  
in the field of sustainability  
and he's working very hard  
right now on that,  
I imagine he'll talk about that.  
He has been an important citizen  
in our politics,  
being a very very important actor  
on the stage of New Hampshire  
in this extraordinary journey  
to the elections last Tuesday  
and he coaches soccer.  
He sits on all kinds of boards,  
he's won all kinds of awards,  
his wife is a writer,  
he has a fantastic family.  
In short he's a rich and complex  
and very interesting  
human being.  
Please a warm warm welcome  
for Gary Hirshberg.  
Thank you.  
That was very nice

and what a wonderful week.  
I agree with everything Nancy said.  
Part of the context  
for my remark this morning  
that the 20th century is over  
is that really I think  
that's what this election was about.  
I think it was, you know,  
there was drill baby drill and nukes  
on one side  
which are 20th century solutions  
to some very serious  
twenty-first century issues  
and then there was  
a whole other dimension  
which I definitely  
will talk some about.  
So as I, you know New Hampshire  
we of course have the election  
is sort of like forever. I mean I think  
that they've started already back.  
We say that we don't vote for anyone  
whose hand we haven't shaken twice  
but you know  
over the long long two years  
that we've had these guys  
up visiting with us  
you know much of the lip service  
that was given to sustainability  
it reminded me of my favorite  
philosopher Lily Tomlin  
who says no matter how cynical I get,  
it's hard to keep up,  
and that's really what we I think  
had a choice between here  
is sort of a cynical set of solutions  
or progressive ones  
and thankfully  
my fellow countrymen  
have really redeemed ourselves I think,  
certainly on the world stage.  
My work on sustainability  
goes back really  
to since I was sort of first conscious  
as an emerging teenager.  
My father and grandfather were  
shoe manufacturers in New Hampshire  
and I when I was very young  
I used to think  
that the pretty colors that went  
through the pipes out the back  
into the local river  
were just beautiful, sort of artisan  
but when the river

caught on fire one year  
I knew things were maybe  
not quite right  
and I often tell this story,  
I was a ski racer growing up  
and I spent a lot of time  
on the mountains of course  
every spring hiking  
and skiing Tuckerman's Ravine.  
When I was a child  
you could see on a clear day  
you could see the Atlantic Ocean,  
60-70 miles away.  
That view has not been seen  
for probably 30 years  
owing to the fact  
that we're now downwind  
from all of the errors  
of our industrial revolution  
and so when I emerged  
from that kind of,  
those sort of adolescent realities  
I came to the quick conclusion  
that business was actually  
the cause of all things bad  
and I didn't want to have anything  
to do with business  
so I went off to Hampshire College  
in Western Mass.  
in the early days of that school  
and set out to really learn  
more about ecology  
and how we were going to fight  
this nasty thing called  
business and commerce.  
I studied climatic change back then  
in the early seventies.  
I was, my thesis work was on why  
tree lines were advancing  
around the world  
altitudinally and latitudinally  
and through a long course of events  
I became even more convinced  
that business was really  
the source of all things bad  
and so I went off after college  
to run, well to work at  
and eventually became the director  
of an institute on Cape Cod  
called the New Alchemy Institute  
that did a lot of solar and wind,  
organic agriculture and  
aquaculture research  
and I see a few folks nodding

their heads who might remember  
and at that institute  
we proved that we could in fact  
come up with solutions  
to how we feed and fuel and...  
feed and fuel ourselves,  
how we meet our basic human needs,  
our waste treatment needs without  
recourse to the kinds of problems  
that have gotten us into our, some of  
the ecological jams that we're in now.  
For example in a room that was oh,  
probably half the size of this theater  
we found that we could feed  
ten families, three meals a day,  
365 days a year  
using no fossil fuels  
or I should say burning  
no fossil fuels.  
We, the sun would come in  
during the day  
and would heat up  
our tanks of water  
which would in the evening reradiate  
to keep the building ambient and warm  
such that we actually grew  
bananas, figs, papayas  
and we had bees, birds and butterflies  
inhabiting this ecological island  
even when there were 3 or 4 feet  
of snow outside  
and since we had water we grew fish.  
We grew 100 pounds of organic tilapia  
every year and the fish waste would  
trickle to the bottom of these ponds  
and like any biological system  
we had to remove that waste  
in order to keep the fish  
from eutrifying  
um the water from eutrifying  
so we pumped it out  
and that became  
a nutrient-rich irrigant  
for the gardens  
that surrounded these fish tanks  
and since we had fish and we had plants  
we grew herbivorous plant-eating fish  
so we would take the weeds  
and the leafy matter  
out of the gardens and feed  
that back into the fish tanks  
and if this is sounding  
familiar to you  
it's because we were really mimicking

what goes on in nature every single day  
and I was very excited and enthusiastic  
about our wonderful technologies.  
It was all the energy,  
the electrical and mechanical energy  
was provided by the wind  
and so on and so forth  
and all of this was exciting work  
until Ronald Reagan came in  
and slashed funding for,  
the funding that underpinned  
most of our research  
through NASA or other agencies  
and right about that time  
I had an epiphany.  
I visited my mother who was the senior  
buyer at the Epcot Center in Florida.  
I don't know how many of you  
have been there  
but there they had something  
they called the land pavilion  
that was funded by  
Kraft Foods at the time  
and it was in this exposition  
that they were demonstrating  
their view of how food would  
be grown in the future  
and as you might imagine  
it was a little bit different  
from my more ecologic view.  
The building was heated  
with burning fossil fuels  
in Central Florida.  
It used massive, really rivers  
of chemical fertilizers  
and pesticides and herbicides  
and it was just you know,  
the sort of encapsulating all that is  
wrong with modern agro-business  
with our kind of linear  
and exploitative view of the world  
as our subsidiary,  
as something here for our taking  
but the most horrifying thing  
was not all the bad ecology,  
or lack of ecology  
that was going on.  
The most horrifying realization  
for me on that day  
was that for the 25,000 people who  
were visiting my institute every year,  
that's how many people were paying  
to go there every day  
and so this kid who had run,

not walked, run away from business  
came through this exhibit,  
I went through twice  
and I said to my mom  
I said I've got to become Kraft.  
I have to develop the power that they  
have to reach this many people  
and so it was from that kind of humble  
origin that Stonyfield was begun.  
We had a small organic farming school  
in New Hampshire.  
I was a trustee, there were 7 cows.  
We used to eat a very delicious yogurt  
at all of our board meetings  
and with the Reagan cuts  
and recognizing  
this Kraft experience  
I said you know why don't we start  
selling the yogurt to fund the school  
as an alternative source of revenue  
and by the way ten years later  
almost to the day from that epiphany  
we actually passed Kraft  
in sales of yogurt and now  
we're many many times larger  
than their brands Breyer's  
and Light N'Lively,  
you might remember that one.  
So I found my way back into business  
and I'm awfully glad that I did.  
25 years later in writing this book  
and in sort of reflecting  
on the lessons of this quarter century  
I've concluded that the changes  
that we need to see in this world  
are absolutely going to require the  
engagement of business and commerce  
or they're not going to happen.  
And let me talk,  
let me just sort of lay a foundation  
for what I'm talking about  
in terms of change  
so we're all on the same page here.  
You know there's climate change,  
organic farming, energy sustainability,  
they're always in the news  
these days and much of the news  
is gloomy and depressing.  
In fact it's not easy stuff  
because the solutions seem so difficult  
but I've come to see us  
not in a dead end  
on a lot of these issues  
though one might conclude that

depending on which report you've read,  
but rather in a cul-de-sac,  
a place that we can come out of  
and I think as with this election  
I think we're in a moment  
as Nancy said so beautifully  
in the introduction  
where we really can begin the work  
of reviewing how we've existed  
on the planet historically but really  
beginning a new relationship.  
Just to put this in perspective  
let me give you a little bit of data  
at the risk  
of depressing you further.  
When I was born there were  
2.5 billion people on Earth.  
When my kids were born  
we had about 5.5 or 6 billion in 2000  
and the current projections are that  
we'll have 9.2 billion coinhabitants  
here in the next 40 years.  
To put it more simply  
there's been absolutely  
zero preparation  
for that kind of pressure  
on the planet  
but the pressure  
isn't even just the numbers.  
The pressure is tied to how we live.  
It has been long documented  
that if the rest of the world  
consumed resources as we do in the West  
we would need 3 earths to support  
the current numbers of people  
so the thought that we would  
have a China for example or India  
adopting our lifestyles and having our  
carbon footprints driving cars, etc.  
You know more SUVs, 46% more SUVs  
were sold in China this year  
than a year ago.  
More Buicks were sold  
in China this year  
than in the United States.  
If you're wondering where  
those big wide cars have gone  
I'm afraid they're over there  
and anybody's who's visited China  
knows that the infrastructure  
is certainly not ready  
for that kind of load. You know  
from any number of points of view  
we can see that we have been engaged

in a series of myths  
that have driven our commerce  
and I'll just give you  
some more data points  
and then try to summarize these myths.  
The Inter-Governmental Panel  
on Climate Change,  
the co-winner of the Nobel Prize  
with Al Gore,  
told us a year and a half ago  
that we had ten years  
to adjust the trajectory  
of CO2 emissions  
in order to avoid  
catastrophic climate impact  
by the middle of this century. Back  
when I was studying this stuff in 1972,  
2050 seemed like you know  
forever from now  
but you know, from then but now it's  
very much in our children's lifetimes  
and if we eat enough organic yogurt  
maybe your lifetime too  
but you know we see  
in the year and a half  
since this proclamation and there's  
a global consensus on climate,  
in fact the last two people  
who on earth  
who didn't acknowledge climate change  
will be out of office in 72 days...  
Not to put too fine a point on it.  
-But, exactly.  
But we don't just have to look  
at climate or energy,  
we could look at water. Water's been  
talked about in scientific circles  
as the oil of the 21st century.  
Currently 42% of the world  
does not have access  
to clean water, right now  
and as we talk about  
impacts of climate change,  
sea level rising and so forth,  
we will have less habitable land  
and we will have more polluted water  
so over the last hundred years  
we've actually doubled our water usage  
every 21 years  
and so again imagine that trajectory  
colliding with 9.2 billion inhabitants.  
On energy we have passed  
the legendary Hubbard's peak  
that is the curve of known

economically available reserves  
of oil and natural gas.  
In other words  
there's still more available but it's  
going to be a lot more expensive  
which is why oil touched  
144 dollars a barrel earlier this year  
and every analyst agrees  
it will be back.  
We're having an adjustment  
right now  
but as I said  
with China now alone accounting  
for 40% of the world's recent  
increase in oil demand  
and a consumer culture  
being really influenced  
by their desire to live like we do  
we'll only see more and more  
of the remaining reserves drained away  
and yet we in the US  
we waste 52% of the energy  
that we actually burn,  
lost in waste heat, I could show you  
projections from space  
where you can see lighting,  
much of which  
the lighting that we're spending  
is going somewhere else.  
It's not lighting the task  
that it's there to light  
or to put it even more bluntly  
we waste more energy than Japan,  
the third largest  
GDP in the world, uses.  
We waste more than Japan uses  
and so you know these are examples  
of unsustainable behaviors.  
They can't continue.  
I could depress you further  
if you'd like  
and I'll just give you  
a couple other anecdotes  
just to round this out  
but we've lost half the topsoils  
that were here when Louis and Clark  
made their way across the U.S.  
We, by the way we're not the first  
civilization to have done that.  
Egypt, Rome, Mesopotamia,  
all the great cultures  
abused their soils and in fact  
there's a historical thesis  
that in fact these cultures

rose and fell  
on their agricultural integrity. As you  
had to push further and further out  
to get your food,  
your nutrition you became,  
your culture became  
more and more vulnerable.  
We have sent that topsoil  
not out into space,  
it's in the oceans but it's there along  
with a tremendous amount of nitrogen  
that we've also applied  
because as we've abused our soils  
meaning seen them as substrates into  
which we can inject chemical fertility,  
we have minimized erosion control  
and therefore the fertilizer,  
the annual doses of fertility  
have drifted off  
through air and water erosion  
along with the soil  
and so we have a situation  
for example in the Gulf of Mexico  
at the mouth of the Mississippi River  
called a hypoxia,  
it's a zone that's larger  
than New Jersey,  
it's growing 20% annually,  
and it is literally a dead zone  
due to excess nitrification  
from excess nitrogen runoff  
much like you would have  
with a faulty septic system  
in your own yard  
or a sewer system near a pond.  
What has happened is that  
the dissolved oxygen environment  
from that excess nitrogen  
has led to no plankton, no algae,  
no fish, no birds, no wildlife  
in a zone again larger than New Jersey  
and growing and  
it's about one of 400  
that we have now documented  
around the world.  
And so these are just you know  
the kind of gloomy examples,  
and I'm sure on this rainy night  
that's all you wanted to hear,  
have this guy come out  
and tell you that the sky is falling  
but as I say I'm actually  
in fact optimistic.  
I actually believe

we're in a cul-de-sac  
and I see all kinds  
of evidence around me  
through commerce and  
through our exercising our power  
as the drivers of commerce  
that is as consumers  
I see all kinds  
of reasons for hope  
and these are really  
what I capture in my book.  
Let me just summarize the myths  
as I have expressed them to you.  
One I already mentioned. The earth  
is actually not a subsidiary  
of our economy. This is nothing  
that anybody would ever say  
but it is how we unconsciously behave.  
We believe it's here for our taking  
and I think intelligent folks know  
that all our economies  
are actually made possible  
by an abundant earth.  
It's exactly the reciprocal,  
but we treat, we don't treat the earth  
that way. We have  
a linear way of relating to the planet  
unlike the cyclical systems  
I was describing back at my institute  
in the late seventies  
and early eighties.  
We have a notion that  
we can extract, exploit  
and also engage in another myth  
which is the myth of waste.  
Waste does not occur  
anywhere in nature,  
it's a human invented concept.  
The leaves that fall from the trees,  
the "waste matter" feeds the soil,  
provides the basis for micro-organisms  
which provide nutrients and water  
and air pathways  
to create more life and this is true  
everywhere in nature  
but yet we humans have this idea  
that we can actually produce something  
called waste which leads  
to another myth that we have  
which is that there is a place  
called 'away' where we can send it  
and we know with climate change  
that you know, CO2 and methane  
that goes into the atmosphere

doesn't go away  
it just circulates and  
if we stopped all carbon,  
all fossil fuel burning  
at this moment, right now,  
we would continue to warm  
the planet for 40 more years  
which is why the IPCC  
has sounded this alarm  
that we've really got to  
not just slow down,  
not just reduce but we've got to  
actually reverse and restore  
and trap carbon and  
put it back into the soil  
where it can foster more life.  
We have another myth  
which is that, which is  
even more fundamental than these  
and since we're sitting  
on the grounds of a university  
I'll speak to my economics 101 class  
where I first encountered this myth.  
It's the myth of externalities.  
This is an allowance that we humans  
have cleverly invented.  
Do you remember externalities?  
Externalities are those  
direct consequences  
of our economic behaviors that  
absolutely result from how we behave  
in our commerce but which  
don't appear on our income statements  
or balance sheets and therefore no one  
is actually accountable for them.  
In fact they don't really exist so  
climate change is a classic externality.  
It's a direct consequence of the idea  
that we can mine the earth's crust  
for natural resources, exploit them,  
burn them and send that stuff  
to this place called away and  
so too is our national obesity epidemic  
or our national cancer epidemic  
or our national diabetes epidemic.  
These are direct consequences  
of choices that we've made  
as economic creatures  
but no one's accountable for them.  
Nobody has that responsibility  
in these businesses  
and so I share with you  
this sort of summary about the myths  
to underscore the depth of the change

that we're talking about here.  
It goes to the heart of how  
we think of ourselves as a species,  
how we relate to this earth,  
how we relate economically,  
how we exchange goods and so forth  
and so to put it more simply  
sustainability is not  
an academic idea  
any more than renewable energy  
is an alternative.  
It's not.  
Nor is organics an alternative.  
You know all of humanity  
ate organic food  
until World War II.  
Every famous person you know,  
Jesus Christ, Joan of Arc,  
Julius Caesar all ate,  
or Abraham Lincoln all ate  
only organic food.  
Nancy is writing a book  
on Lincoln.  
So I mean, organics is a  
fundamentally sane way to relate  
because not only are we avoiding  
toxifying our air, water, soil  
and oh yes, our bodies by the way,  
a little break here.  
Let me just digress and tell you  
a study was done 4 years ago  
of children across, babies, infants,  
of the cord blood at the time of birth  
in which 287 chemicals on average  
were detected. -Oh my God!  
Two thirds of which were known  
or potential carcinogens.  
This isn't because of what mom  
was consuming during pregnancy.  
This is because of the  
ambient levels of toxicity  
that we've put out there  
by our continued, repeated applications  
of poisons to solve problems  
in ways that could be solved otherwise  
and have throughout history  
been solved otherwise.  
So, and a lot of these have  
long half-lives, these chemicals  
so organics is an absolutely  
classic example  
of a restorative way of living  
as a species  
because the whole basis

of organic agriculture is that you put the nutrients into the soil, you build the soil. The healthier the soil the more nutrient pathways are opened up so rather than applying a secular, a prescribed dose of chemical fertility or pesticide application that hits a narrow band of pests you're providing, you're building the strength of crops and plants by having the whole spectrum of nutrition available, not just we synthesized in a lab and then applied somewhere. I could tell you, I have, well let me give you an example. We buy all of our sugar in Brazil and the normal way that sugar is harvested is, you know Stonyfield's a 100% organic company. The normal, if you've ever flown over Florida during the sugarcane harvest you may have noticed this incredible carbon release because at the end of a season what they do is they burn the fields, first and foremost and they burn it because there's been this idea that there are viruses developing in the crops and this is the best way to kill them off so they won't be present when you plant again, but also they burn to get rid of snakes and other so called "pests" which will interfere with the harvest and they also burn so that they get rid of that, sugar is a high carbohydrate crop which requires a lot of photosynthesis so for every pound of cane there's an enormous amount of square footage of leafy matter and that's seen as "waste" so they burn off that waste so you get this incredible carbon release but something else happens

which is that you burn off any carbon matter that has accumulated in the soil during that season which means that next year you've got to replace that nutrition with synthesized, with imported chemicals from Kuwait or somewhere and so in addition to the fact that toxins, the fertilizer and chemical pesticides and herbicides that are being applied in this system are toxifying, you're also, it's a one way street. You need more pesticides every year because you're creating a system that is completely dependent on them and we're genetically narrowing the spectrum to crops that are really highly highly susceptible and ultimately resistance to even the pesticides so you need even more. You're building crops that are absolutely dependent on that synthesized dosage of fertility so our growers in this now 35,000 acre cooperative concluded a bunch of years ago this was a dead end. I mean they were just pouring more and more resources in every year to get the same yields, and so they decided to engage in green harvesting and what that meant was that rather than burning the fields they drive down the fields and chop and spread all the leafy matter, collecting the cane, and as they do they build soil matter. They put a foot or two of duff, of organic matter on the soil. The topsoil is never exposed to air or water erosion not even for a minute. As this material is built up, biodiversity, first of all the quality of the topsoils are incredible, they are back to the same organic content of the native forests when these folks first came in there. The water quality

has of course improved,  
employee health has improved  
because they're not using chemicals.  
Their fertilizer budget is now zero,  
and biodiversity is amazing.  
Over 300 species of birds and wildlife  
have returned to these fields  
because the entire food chain  
is now healthier.  
There are cougars bigger than me  
wandering through these fields  
owing to the health  
of the entire system.  
But here is the key punchline,  
with all of these ecological wins  
they've also had annual  
10% increases in yields  
over when they were conventional  
and organic sugar used to be  
100% more expensive than conventional  
when I first started buying it  
and now it's exactly at parity  
and the reason for that  
is that their yields are up,  
their inputs are dropping, labor,  
by the way even that mechanized system  
that drives over to harvest  
use low PSI tires, in other words  
they don't compact the soils  
so that they're, you know  
in conventional agriculture  
we put in, we get rid  
of all the carbon matter,  
we put in chemicals,  
we just compact the soils  
which means we need more horsepower  
next year to till than the year before.  
It's a total one-way street  
and so these guys have created,  
crafted a system  
that is truly ecological  
and by the way, on the other side,  
the conventional guys down the road,  
their costs are only rising because  
they're tied directly to natural gas  
which is one of the most inflating  
commodities on earth.  
And so in my 25 years in business  
I have encountered hundreds of examples  
like this and I can tell you  
we have 1000 dairy farms now  
who supply our milk. These farmers  
are all more profitable than they were  
when they were not organic.

I have been on Central Valley farms  
in the middle of California  
where I have seen,  
walked around to these farms and  
the buzzing of birds and bees  
and butterflies is all there  
and I've driven down the road  
to this guy's cousin's farm  
which is a conventional farm  
a quarter mile away  
where there is no life,  
there is nothing flying around  
because again  
you wipe out the food chain and this  
means we are dependent on inflation,  
on high costs annual replacements  
of what nature would otherwise provide.  
Incidentally I meant to say  
on the organic sugar operation,  
they've had a 95% reduction  
in pest damage  
in the course of building  
this organic system  
so when you see analysts saying  
organic is a nice idea  
but it will never feed the world  
that's a pure myth.  
In fact yields are up  
on all of our farms.  
Our farmers are profiting by the fact  
that they get more out of their soil  
every year because  
they are improving it.  
Just a couple of other  
quick examples  
and then we'll throw this open  
for discussion.  
Just switching gears completely,  
we, by the way  
I need to be clear and humble  
about something.  
When we started this company 25 years  
ago I had no idea about any of this,  
I just knew we needed  
to do something different.  
Talking about organics  
and climate change back then  
was a kind of a lonely place to be,  
especially in commerce.  
Everyone thought we were crazy  
and you know I often say  
that we had a wonderful company  
just no supply and no demand,  
but you know now I can look back

and more importantly  
I can look ahead at  
a whole generation of entrepreneurs.  
You know the organic  
foods industry right now  
is enjoying its 20th consecutive year  
of over 20% annual growth,  
by the way while conventional foods  
are growing 3 to 4%.  
My own company is in  
our 19th straight year  
of over 24% annual in a category  
that's growing 5 or 6%.  
So I have a financial side,  
I can, you know,  
absolutely dazzle you  
with the numbers if you want,  
but the point is that  
there is an absolute correlation  
between our investments  
in sustainability  
and our financial success  
and I'll come back to that point  
in concluding in just a moment.  
I want to give you one other example.  
What we have done, we have,  
my favorite two words are why not,  
except when my 16 year old  
hits me with them,  
but I mean, I mean what  
we're doing is we are...  
You know I'm of  
the question authority generation  
and that's what we do.  
That's the culture we try to create  
in our company, ask why not.  
Why can't we have in New Hampshire  
a solar generated,  
a solar powered facility,  
and indeed we have the largest  
solar array in the state on our roof  
and we're about to build  
the largest solar hot water system  
in New England as well  
because I use a lot of hot water.  
When we had exceeded the capacity of  
our local waste water treatment plant  
I knew, there's another myth which is  
the way we treat our biological waste  
as a species is that we believe that  
the solution to pollution is dilution.  
You know we take our biological waste,  
we add a lot of water, oxygenate it  
and then you know what, we send

it to that place called away, right?  
And in simple terms that's called  
an aerobic system, adding a lot of air.  
When I sized up an aerobic system  
for our facility at Stonyfield  
I discovered to my horror that we were  
going to have to produce one truck-load  
of sludge every single week  
and when I asked the local authorities  
where I should send it, they said it's  
really easy, you send it to Vermont,  
you've got it on your sweatshirt,  
which was their definition of away  
and I was picturing Ben and Jerry's  
having a meeting in Vermont  
and they're saying oh yeah,  
you send it to New Hampshire  
and I was thinking  
this isn't going to work.  
So we built an anaerobic facility  
to make a long story short,  
a facility that encloses the waste  
under an envelope.  
By the way methane,  
which is a byproduct of our waste,  
is 22 times more impactful  
as a greenhouse gas than CO<sub>2</sub>,  
so we trap it, we burn it, we use it,  
we produce no sludge  
out of this facility,  
we've decreased our water usage,  
our labor, our energy  
by anywhere from 50 to 90%.  
It costs half a million dollars more  
to build this plant  
than a typical polluting plant,  
and I got that money back  
in the first 9 months.  
This plant will generate for me  
over the first 10 years  
of its operation  
it will generate  
about 6.5 million dollars of profit.  
In other words  
I've turned a cost center  
into a profit center and we do this  
throughout our company  
and there isn't time tonight for me  
to give you all the examples  
but whether it's reducing  
our packaging, incidentally  
as a species we are becoming enamored  
with the idea of recycling,  
which is obviously

a very important thing to be doing  
but in fact if you stop  
and think about it for a second,  
recycling is the failure  
to have reduced or reused.  
Recycling takes energy, takes inputs  
and is often carbon neutral  
if even a little bit carbon negative.  
If you can source reduce,  
if you can lighten  
or get rid of plastic  
that never has to be recovered  
then you save millions of dollars  
as we have in our company,  
literally by going,  
getting rid of those lids  
that used to be on the top  
and going to the aluminum instead.  
We've reduced energy usage  
by 16%, water by 13%,  
6% less solid waste created  
but here's the bottom line, we get  
a million dollars a year of savings  
by not, by getting rid of those  
little plastic lids on the top.  
So I have lots and lots of examples  
and I'll, if you want  
in the Q & A we can talk about them.  
Let me drive to a conclusion  
by making a couple of points.  
Stonyfield is hardly alone  
in this discovery.  
We need to understand  
that eco-efficiency  
is not sustainability.  
We are not going to reduce  
or offset or recycle our way  
to solutions to the climate crisis.  
We are going to have to actually,  
I mean when the politicians  
talked in the last few months  
about 80% reductions  
by 2020 or 2050,  
you have to understand  
that accounting for economic growth  
that means that we have  
to completely change everything  
including how we think.  
You know you might think  
that this is whatever,  
12 ounces of water  
or that cup of Starbucks that you had  
this morning is 12 ounces of water.  
In a Starbucks I can tell you

it's actually 205 liters of water  
that goes into making  
every single cup.  
By the time you add up  
the coffee growing,  
the energy that went  
into the packaging,  
the transportation,  
even the little you know,  
insulative collar on its sleeve,  
you can add up and see,  
the sugar, the milk, incredible amounts  
of water have consumed.  
We have to think in those ways.  
We have to recognize  
we all have a footprint and  
we have to measure that footprint  
because what we've discovered  
at Stonyfield is that by...  
We have a carbon map that would  
run the length of this stage.  
We look at everything  
from commuter miles to our milk,  
to our plant, to our,  
all of our supply chain  
and every single time we've addressed  
our supply chain or our footprint  
we have made money by doing it,  
every single time.  
I'm not exaggerating,  
we've extracted heat from our...  
I mean we do recycle, we recycle 72%  
of the waste that goes out of our plant.  
Our boxes that come in  
with our cups and our lids we,  
instead of ripping them open  
we slice them on the seams,  
fold them and we sell them  
to a company called Rebox  
who actually pays us for them.  
We capture waste plastic  
and we work with a company  
that makes toothbrushes  
and spoons and razor blade  
handles and so on  
but again source reduction is not  
going to be how we're going to do it.  
Ultimate success for me will be  
when you finish eating the yogurt  
you eat the cup and I believe  
that's going to happen,  
that's an honest cradle to cradle  
and so again  
Stonyfield is not alone

in this discovery.  
Are you familiar with the UPS example?  
It's a wonderful story.  
Again this question of why not.  
A couple of engineers at UPS  
said why don't we avoid  
left hand turns,  
and you could say well  
what's wrong with left hand turns?  
That's great. -You know what happens  
when you're going left  
is you wait for the traffic  
to go by you  
and you're waiting and waiting  
and then you finally can go.  
By the way I was explaining this  
in London 6 months ago,  
no one understood  
what I was talking about,  
but they figured out that if they  
to go to Nancy's house  
they took 3 rights  
instead of one left  
they could save themselves,  
and they did,  
3 million gallons  
of gasoline in a year  
by not taking left hand turns.  
By the way do the math,  
at \$4.50 a gallon, those two guys  
saved their company millions of dollars  
by not going left. This is not  
a political recommendation by the way,  
this is energy we're talking about.  
-How much, how many gallons?  
3 million and that was  
31,000 metric tons of CO2.  
So what I captured in the book  
is not just Stonyfield's history  
of winning, of gaining dollars back  
from all of these efforts  
but also many other companies. P&G,  
250 brands for 5 billion consumers,  
Procter and Gamble,  
85% of their sales  
are associated with  
household water usage  
so now you are probably seeing  
the last large bottles of detergent  
that you'll ever see, it's going  
to become concentrate. Why?  
Because they figured out  
that if they ship that water around,  
they're paying for that,

and it's not profitable to do so,  
so they're making products now  
that use cold water, non-potable water,  
salt water. They're developing  
shampoo and personal cleaning products  
that use no water at all.  
Fuji Film in South Carolina  
is now getting 50% of its energy  
from a waste plant nearby.  
They stuck pipes in the ground  
and they're pulling methane out.  
Frito-Lay in Arizona  
now has a facility,  
the corn mash from those  
not so healthy chips  
was a waste product  
that they had to get rid of.  
They've now realized  
they can generate methane from it  
and so they're capturing that stuff  
and this year their plant,  
between solar which is  
obviously plentiful in Arizona,  
and corn mash, they'll be  
90% energy self-sufficient. Why?  
Because it's the profitable  
thing to do.  
So I could go on with many examples,  
let me drive to this concluding point.  
This is all well and good,  
and frankly it's going to happen  
with or without government.  
It happens that we're going to have  
not only a cap and trade program  
but I think we're going to have  
a cap and reinvestment program here  
under this administration  
but, and we will see wind power,  
we'll see renewable energy tax credits  
which by the way,  
were part of the bailout bill.  
They snuck in recently, they're back  
anyway since Reagan,  
but the critical thing  
for us to remember here  
is we're not on the sidelines  
of commerce. Here's the other lesson  
that I've learned  
in my 25 years in business.  
We're actually in control,  
we the consumer.  
If you think that the size,  
shape, color, packaging, price  
or any other aspect of a product

is an accident just forget it.  
Corporate America spends billions,  
not millions, billions  
to tally up our votes. Every time  
you run an item past a scanner  
you're voting and so  
while we're all very focused  
on our 2 billion dollar presidential  
election that concluded on Tuesday,  
we need to understand that we vote  
every minute of every day,  
and how you vote  
makes all the difference in the world  
and so what we've done at Stonyfield,  
I mentioned earlier,  
we have a very different economic model  
and this is the model  
that all commerce will move to.  
My gross margins,  
my cost to goods are higher,  
there's no doubt.  
My gross margins are 10 points worse  
than my competitor,  
a thousand basis points.  
But what happens is that  
and they're higher because  
I'm investing in a lot of these things  
that don't, that might have a return  
that's a little bit slower,  
or I pay my farmers a floor price. Why?  
Because I think it's a good idea  
not to lose my supply chain. I want  
our farmers to reinvest in their soil  
so I give them grants to do  
on farm methane digestion  
or we give them grants  
to do composting or rotational grazing  
or we pay our sugar farmers  
even when it is 100% more expensive  
to fuel that transition because  
as there is more demand  
there will be more supply  
and as there is more supply  
those costs will come down  
so we invest.  
Now at the same time  
that my gross margins,  
in other words the product  
at the back of my factory  
is much more expensive and I cannot  
pass all that on to the consumer  
with a price increase, I can't be  
10 points more expensive.  
I'm not going to sell a \$1.50

cup of yogurt,  
a cup of yogurt for \$1.50,  
at the same time I will tell you  
that my net margins,  
my bottom line  
are the same at  
or better than my competition  
so something happened  
between the gross margin  
and the cost of goods  
and the net margin  
and that is advertising,  
I don't spend on advertising.  
Tell you a very quick story  
as I try to wrap up here.  
I was in Florida,  
about a year and a half ago  
I was holding up  
a competitor's yogurt product  
at the shelves of Publix  
and a little old lady came up to me  
and tugged me in the elbow  
and she said young man,  
someone your age  
really should be eating the Stonyfield.  
That's wonderful. -It was like  
a religious experience,  
are you kidding? I was,  
I hired her on the spot.  
I said thank you mom,  
no I'm joking,  
but I said why is that? And she said  
well do you know  
that they give 10% of their profits  
to environmental causes?  
She didn't know  
who I was of course.  
She said do you know  
that they offset their carbon emissions  
from their manufacturing? Do you know  
that they support family farms?  
Well I said well  
how do you know all this stuff?  
She said well, my husband died  
a couple of years ago  
and the girls and I, she was  
talking about her bridge club,  
we go to the websites  
of these companies,  
we learn about them because we want  
to be around for our grandchildren,  
we want to eat carefully,  
we want to eat right  
and we want to support

you know, companies  
and this is one  
of the best companies.  
Well I told her you know, who I was  
and thanked her profusely  
and as I say hired her,  
but the reality is, is that  
she is not only  
a loyal customer,  
but you know loyalty is the holy grail  
of consumer products.  
The normal consumer product  
strategy for marketing  
is you build awareness  
which leads to trial,  
which leads to hopefully repeat trials,  
Nancy teaches this stuff,  
which leads hopefully to purchase,  
repeat purchase  
and eventually down at the end  
you hope that you get loyalty  
because with loyalty  
comes word of mouth  
and you can spend less  
on advertising.  
Well we just skipped all that stuff,  
I mean what we do  
is we go out  
and we give our yogurts away.  
We sample 2 million people  
last year alone.  
I always say we can ship  
at 3000 miles,  
but it's the last 18 inches  
that makes all the difference,  
we get it into people's mouths.  
We put cows up for adoption,  
you can send in five yogurt tops  
and get a certificate  
naming you the co-owner of a cow,  
a photograph of your cow  
and then your cow  
sends you 4 emails a year.  
I love that! -They used to  
send letters to you  
but that was carbon intensive  
so now it's email.  
Emails, I love that.  
-They're very intellectual.  
I want a cow. -They're very  
intelligent cows. You can have one.  
People give them away  
as anniversary gifts and so on.  
The point is is that,

one final anecdote.  
When we were breaking into  
the Chicago market,  
there were two chains in Chicago and  
they told us  
we had to get to a 3.5 market share  
within 90 days  
to remain on the shelves.  
-That's a lot in 90 days.  
Yeah and that by the way,  
if I was Coke or Pepsi  
or conventional food brand  
that would have cost me  
about 10 million dollars in advertising  
to get to a 3.5 share,  
that's kind of the conventional wisdom.  
I didn't have the 10 million  
but I knew that commuters  
riding the trains in Chicago  
avoided the production  
of 46 pounds of particulates  
into the atmosphere  
by not taking their cars  
and I asked the  
Chicago transit authority  
if I could thank their commuters  
by giving them a cup of yogurt  
and a spoon and we came up with this  
we salute your commute campaign.  
We sampled 85,000 commuters  
in 72 hours.  
The Today Show came down  
and filmed the crazy yogurt people  
giving out yogurt.  
These poor commuters  
just thought they  
were going to work,  
we're telling them  
what heroes they were  
and they walked like yeah,  
I guess I am kind of heroic  
and people felt that. Anyways we got  
to a 2.9 market share in 3 days,  
cost was 100,000 dollars  
instead of 10 million  
so we have repeated that  
all over the country  
and Texas, where of course  
they don't believe in trains,  
we know that if America  
kept our tires properly inflated  
we could get a 2MPG increase  
in fuel efficiency  
so we stood on the sides of the road

in Texas with big signs  
that said we support inflation.  
People pulled off,  
we inflated their tires,  
gave them a tire gage,  
a yogurt, a spoon and so on.  
Punchline and conclusion,  
in my years I've learned,  
yes it is a different business model  
but quality and I define sustainability  
as an aspect of quality,  
does not come cheap.  
It's going to cost us.  
We pay the lowest percentage  
of our income on food or energy  
of any industrialized country and so,  
but that does not mean  
it's unprofitable to engage  
in investing in quality.  
In fact in my case I'm growing  
far faster than the category,  
I'm making far more money  
than most of my competitors,  
and I'm doing it with fun,  
having a sense of humor about it,  
not telling people the sky is falling  
but telling all of us that we can,  
that we all have the power  
to make change.  
My final phrase on that  
is a Gandhi line,  
he said anyone who thinks  
they're too small to make a difference  
has never been in bed with a mosquito  
and that's really our power.  
We can be mosquitoes  
so thank you for listening.  
Lincoln said in the middle of the war,  
the Civil War, that what we do  
is not just for today,  
but for a vast future as well,  
and part of what Gary is talking about  
when he talks about sustainability  
or he talks about  
extracting methane from waste  
is talking about a set of relationships  
that extend beyond this moment,  
beyond us right now, right?  
into our child's future  
and into their children's future  
so I just thought,  
I thought it was just terrific.  
I want to ask one question of you  
that's a more personal question

about your journey,  
because you've had  
such an interesting journey  
and that is you're full of light,  
you're full of science  
and you're full of facts and  
you're full of, you're very pragmatic  
but you're also full of light,  
you can see it when he talks,  
you can see it in his face.  
-It's the yogurt.  
Ok well good. God bless you and yogurt  
but where's your inspiration come from?  
Like where from within or from without  
do you draw your, you know,  
your sense of hopefulness  
and impact?  
How many hours do we have  
to answer this?  
No I mean, you know I had  
a single mom with five kids  
and dinner through the Vietnam era  
was spent talking about  
what we each needed to do  
to grab an oar,  
the privileges that we had  
so it certainly starts right there.  
It started at the dinner table  
as a kid, but I see,  
I mean success begets success.  
I get hope and fire  
from every single thing  
that I see around me that's working.  
You know, I mean my wife calls me  
a pathological optimist, it's true,  
I have that disease  
as all entrepreneurs do  
as you well know, but you know  
we are talking about a situation here  
that isn't really optional.  
As I said earlier  
organics is not an alternative. In fact  
the way we grow food conventionally  
is the alternative. Future generations  
are going to look back  
on this 100 year spree we had  
with our planet and chemicals  
and say what was wrong  
with you people?  
You were poisoning the world  
you live in with your water,  
you were given all this bounty  
and you abused it,  
and you know you can wallow

in the negative of that  
because it's all true  
or we can get on with it  
and you know I think  
that it's very contagious  
and very exuberating and very exciting  
to see things work.  
I mean at New Alchemy, you know  
that was quite a fun place  
to go to work every day.  
You walk out of the winter  
into this greenhouse with the bees  
and birds and butterflies flying around  
but along with Lincoln I just tell you  
my one, the most inspiring book  
I've ever read  
and the most inspiring person,  
the most inspiring person  
is Nelson Mandela and his book  
if you haven't read 'A Long Walk  
to Freedom', read it  
because 26 years of being locked up  
by irrational, unfair, you know,  
I mean shall I go on,  
you all know this,  
and then to come out  
and embrace the captors,  
and what we need to do now is we need  
to understand we're not at fault  
as a species, we're not bad. We've just  
been a little bit misguided,  
we've been following these myths.  
We're not the first generation  
or society through history  
to have these myths  
but we can fix them, we can fix it  
and it's the fact that we can do it  
that really gives me my juice.  
-That's great.  
I said to Gary beforehand  
I think he's a teacher.  
A very important part of what you do  
is to tell your story  
because there are people,  
I teach at the Harvard Business School  
and this generation, what we're calling  
the millennial generation is so hungry  
to walk a path that really,  
that is all about business,  
because they're at  
the Harvard Business school,  
but about a different attitude  
towards business,  
about business that

far transcends the market, right?  
And it has to do with worth  
and positive contribution  
not just to the traditional sets  
of stakeholders but to each other,  
to all us, our brothers' keeper,  
our sisters' keeper  
is an expression that Barack Obama  
has been using a lot  
and you can feel it in the generation  
now coming of age  
and so it's a pleasure...  
-And can I just Nancy. -Absolutely.  
That there was a study released  
at the University of Massachusetts  
a month and a half ago.  
You all are probably aware  
that we've lost 2.5 million jobs  
in America in the last 12 months  
and this study showed  
that an investment of \$100 million  
in clean energy will generate  
2 million jobs right back and,  
100 billion sorry, and Obama's plan  
as you know is 150 billion  
not just funded by tax-payers,  
it's a public-private partnership  
but I mean this generation  
with their hunger is going to be fed  
because you know unfortunately  
we've messed things up.  
Fortunately fixing it represents the  
greatest economic development opportunity  
in the history of human kind.  
-Absolutely.  
Restoring soils and  
switching over to clean energy,  
you know the metal fitters,  
I mean the endless positions  
that are going to be needed  
with wind farms and conservation  
are incredible and they're all going  
to be highly, very valuable jobs  
because with cap and trade,  
by taxing waste  
as opposed to you know,  
taxing our profits, bless you,  
we will have an opportunity here to  
self-fund our way into the 21st century.  
And PS if you drive along Sandhill Road  
which many of you may know  
as a kind of Mecca  
for venture capitalists  
in Northern California,

from Palo Alto up to San Francisco,  
it was really the hotbed  
of funding the information revolution,  
if you drive up that road today  
about 60% of what those firms, right?  
Those card dealers,  
because they deal out the funds  
to start the businesses  
of the 21st century,  
about 60% of what  
they're talking about and funding  
are the kind of businesses  
that Gary is talking about.  
Everything that he mentioned  
in terms of his supply chain  
is going to become  
a very large business  
and a huge entrepreneurial opportunity.  
-Well said. -So let's open it up.  
Questions, comments for Mr. Hirshberg,  
teacher, entrepreneur, idealist.  
Sir, I'm sorry can you say  
your name too when you walk up?  
I think you have to go to the mike  
which is right here.  
I think it's kind of nice to do that  
so we can all know each other.  
My name is Tyler Griffin, I go  
to a boarding school in Massachusetts.  
Cushing Academy, and throughout this  
you know economic issue  
our school has really tried hard  
going on a green step  
and we found it very very difficult  
you know because it's very expensive.  
I was just wondering  
if you had any ideas  
that we could bring back  
to our fellow students on campus.  
Sure yeah, that's a great question.  
My son is at Andover so...  
I know Ethan. -You do? Ok.  
-It's a village. It's all a village.  
It is, it is. So where,  
and what you're talking about Tyler  
is happening on every campus  
and you said that,  
it's critical that we rephrase,  
or make sure that everyone heard  
what you said. Because of these  
dire economic times  
the campus is looking to go green.  
It's not because it's the right,  
you know the morally

or ethically correct thing to do,  
it's because there's  
opportunities here.  
You know here's the reality,  
the very first step  
that everyone has to engage in,  
whether it's our homes  
or our campuses or our businesses  
is a measurement process.  
You fish where the fish are and so,  
and it's a wonderful student project  
by the way to do an audit,  
an energy audit of the campus,  
or a waste audit or one could  
go even further and do a food audit,  
in other words, imported things,  
things you're bringing on to campus  
and by definition  
that's virtually everything,  
except for your oxygen.  
When you inventory those things  
you then look at the biggest ones,  
the biggest outflows of money,  
and by the way, we could all  
extrapolate from Cushing Academy  
and think of this as our country,  
or certainly our region,  
into which we import  
massive amounts of inflows  
from other parts of the world,  
excuse me,  
who don't want us exploiting them  
and so by plugging the leaks,  
by doing the measurements  
and plugging the leaks  
you find where the big fish are.  
There's no doubt,  
and I'm sure folks on your campus  
have already quantified this,  
that heat loss in the buildings  
is probably one of the whoppers.  
Electricity, I was speaking  
at Bowdoin last spring  
where my other son goes  
and they told me  
that the little emergency exit lights  
that you see over the doors,  
by replacing those lights with LEDs,  
and those are 7-24 lights right?  
7 days a week, 24 hours a day,  
they save themselves \$18,000,  
just changing the lights  
on the exit signs.  
Now you've probably got

a bunch of those  
so I would start with that one.  
That's a payback by the way  
of you know, probably  
3-4 months at most.  
By that anybody can afford to make.  
Similarly heat loss.  
Now right at this moment you know  
we're \$66 a barrel or whatever,  
it's going to be \$150,  
and it's going to be 200  
and it's going to be \$300 a barrel  
before you blink,  
probably before you graduate  
and so that's an obvious place.  
Food, you know we think that we in the  
northeast need to import everything,  
we used to provide  
all of our food needs.  
Now we've since then discovered  
the banana and coffee and sugar  
and things that can't be grown here  
although climate change may fix that  
I suppose, but you know we do, I mean  
a community garden that can create,  
produce intensively under plastic  
the kinds of yields that I was getting  
would be again a tremendous  
biology project.  
You can invest in efficient  
biological pest controls  
and you might be able to reduce  
the school's budget  
or pay for it through,  
you know the sale,  
don't go into  
the yogurt business please  
but there's plenty  
of other things out there.  
So in the book, which I see you've got,  
you know I discuss the process  
in our own, you know  
we discovered this,  
we discovered that you know,  
auditing ourselves  
and then calibrating  
and attacking the big items,  
the ten biggest items in our footprint.  
We have a team assigned to each one,  
a cross-functional  
multi-disciplinary team.  
Our logistics team, which is our  
fourth biggest footprint,  
last year saves us \$2.5 million,

about 40% reduction,  
in trucking by just being  
more efficient.  
You know anything you focus on  
improves by your focus  
so it's hard to be  
more specific than that,  
but I mean I'd start with the auditing  
and certainly there are plenty of folks  
out there who can help you  
and I'm sure who would love to come  
because you know you represent  
hundreds of families  
that might in turn become  
clients for them. -Yeah, yeah.  
You could create lots of disciples.  
-So thanks for the question.  
I just wanted to ask that, and my name  
is Katie Corneel as you all know,  
you know with all the special interests  
at work in Washington,  
for instance very strong  
lobbying groups for agribusiness,  
for some of these older ways  
of doing things,  
how do you see that changing or from...  
-That's a great question.  
...that model that's  
at work now?  
At the risk of sounding like  
a candidate in a debate  
could I just go back  
to Tyler's question for one second?  
I thought of another thing. I bet,  
because I see this at Andover,  
I bet you have lots of lawns.  
I guarantee you,  
on these gorgeous campuses  
they use the lawns for fundraising  
you know, but it's  
a real drain of money.  
The fertilizer, there are  
slower growing grasses  
could be mowed half the time  
or don't need to be mowed  
if you're willing to go with sheep,  
which by the way  
is a perfect biological solution that  
New England built our entire economy on,  
so it worked for them,  
it can work for us.  
So like I'm saying, you know,  
you look under every stone.  
The special interests point

is so astute  
and I appreciate the question  
because as you might imagine  
a lot of people in my world,  
like I did, thought business  
really is a corrupting influence,  
and capitalism more generically,  
that the concentration of wealth  
automatically means that there's takers  
and there's givers, voluntary or not.  
And you know,  
I actually see it  
quite differently.  
You know globalization is not  
inherently bad, it's how we do it.  
It's the fact that we take.  
In my case,  
with our sugar or our bananas  
or our other goods,  
you know let's, you know in the  
production of a conventional banana,  
a non-organic banana,  
there are 16 carcinogens  
used in the production. So when  
I'm buying organic bananas  
I'm sending money  
to places that need it  
but I'm also helping  
to clean up, help them  
because you know those kids,  
those families are growing up  
in toxic waste dumps even though  
they're not called that.  
The biggest, the time that we now have  
to make the change  
that we need to make requires that  
we harness the power of commerce,  
of existing commercial  
businesses now,  
and in other words Coke and Pepsi  
are not going to go away  
even though they are  
in the poison business  
but you can see what they're doing.  
They're running, not walking,  
to embrace organics. I sit  
on the boards of two companies  
that have investments from these  
large firms as mine does.  
The issue is that we need  
to play Aikido here with capitalism.  
We need to sort of take that force  
and redirect it for good  
and I think the way

that we're going to do that  
is show that, you know you can spend  
all your money fighting lawsuits  
or paying increasing healthcare costs  
or all kinds of inefficient uses  
or you can invest in building consumer  
loyalty by doing the right thing  
and as we scream and yell and push  
we are offering these companies  
a pathway that's more profitable.  
I'm involved in a litigation right now  
with a large utility who is,  
has petitioned and received approval  
to put scrubbers on their stack  
for a coal plant  
which will make it  
cleaner for sure,  
but it will still be  
a mercury and CO2 emitter.  
It will still be out of compliance  
with Clean Air.  
It will in fact still be  
the single largest point source  
of carbon emissions in my state  
and by the way,  
it will cost probably  
by the time this is done,  
though they claim it's half a billion,  
it will probably cost a billion dollars  
by the time you add up,  
let alone with cap and trade penalties.  
I believe that given the chance,  
and that's all I'm trying to buy  
with this litigation is time to look  
at how else we can spend that money.  
I believe that we can help them  
to a more profitable way to go  
and that's really the key to this,  
is we've got to show  
the profitability of this. You know  
Monsanto spent a lot of money  
trying to keep synthetic  
growth hormones alive  
and you know it's we the consumers  
who really neutralized that investment  
and what they ended up doing  
was divesting,  
now someone else has it but still  
they exited the business  
because they saw  
they could not make money.  
And so we have to exercise  
our consumer power  
to say not only are we going to support

companies that do the right thing,  
but we're going to penalize companies  
that do the wrong thing.  
Last thing I want to say  
is you know,  
my goal is of course to grow  
our company and our industry  
but we've got to remember  
that the organic food industry  
despite all of our growth  
is 2.9% of total U.S. food  
so we're rounding her still.  
You know it's \$20 billion of commerce  
but still it's tiny.  
We need to convert the bigs,  
and the way we're going  
to do that  
is by creating greater and greater  
consumer loyalty, greater velocities,  
great returns and so on  
and that in turn will shift,  
it's not going to get rid  
of special interests funding,  
campaign finance reform  
is a pet issue of mine,  
but it's at least going to  
get the funds  
coming from the right sources  
for the right purposes.  
May I just add something  
to that Katie?  
The power of the consumer  
is so important,  
I just want to remind you of this.  
Do you remember back in 1990,  
it was 1997 or 1998  
when Nike had a story break  
about labor legislation  
and labor conditions  
and particularly wages  
and children in Asia,  
in one of their Asian  
manufacturing facilities  
and that story broke actually  
in traditional media, on CNN  
but it spread through just  
beginning to be chat rooms,  
today they'd be blogs or  
they'd be text messages  
and if you think about the power  
of now the internet  
to exercise consumer power  
against practices or interests,  
entrenched interests that no longer

seem you know either ethical  
or sustainable or just  
don't feel right for consumers,  
that is an incredible power.  
Nike spent,  
and I know this from Nike officials,  
spent years rebuilding the brand  
and they had to give up  
on literally millions of teenage girls  
who were 12 to 16 then that said  
I will never buy a Nike product  
and did not,  
that is real power.  
You know the most powerful  
social change movement  
I've seen in my lifetime  
is the anti-apartheid movement.  
This began like with Margaret Meade  
in small academic circles  
and over twenty years you know  
completely changed the face forever  
I think, of what was then Rhodesia  
and South Africa.  
And you know that power  
of marshalling one purchase, one vote,  
we know it works.  
As a consequence of it,  
if I could make a little plug,  
we formed a non-profit at Stonyfield  
called Climate Counts  
and you can go to it online,  
ClimateCounts.org where we  
have scored, to Nancy's point,  
we have scored the  
largest companies in America  
on their commitment to climate.  
Now we came up,  
we spent a lot of money over 2 years,  
developed a scorecard  
with 22 questions that assesses  
are the companies measuring,  
are they reducing, are they  
supporting positive legislation,  
are they disclosing their results,  
and that provides an index  
that's third party verified  
and allows you as a consumer  
to see who's really serious or not.  
For example if I ask the young people  
in the audience here  
what's the hippest company in America  
yell out a name.  
Ok that's the one I was counting on.  
-That's the one.

And she took her ear buds off,  
she said Apple, she put them back.  
Well it turns out on climate  
it's not so. -No.  
Al Gore sits on the board  
of Apple.  
Apple has one of the worst  
climate records  
on our Climate Counts survey  
of any company.  
Now to be fair they did  
increase their score this year.  
They went from 2 out of 100 to 4.  
I think in the rescoring Alice,  
what are they up to now?  
Do you remember?  
I think they're low double digits,  
like 11 or something  
but it's incredible but I mean,  
Apple is a cool company  
but they're not cool  
when it comes to this  
and they must be.  
Now the interesting thing is  
I've travelled the country  
and I've, you know  
put out Steve Jobs email address,  
SJobs@Apple.com by the way,  
if you're interested,  
and they have gotten thousands  
and thousands  
and thousands of emails  
and in fact the folks from Apple  
called us, Climate Counts  
earlier this year to say  
how can we improve our score.  
This has been true, we've scored what?  
130 companies I think  
and we've heard from more  
than half of them.  
You know we use our yogurt tops  
to capitalize on this  
as I think all of you know.  
I'll tell you my favorite story  
about this was when Al Gore was going  
off to the original Kyoto Convention  
and we weren't sure,  
believe it or not,  
we think of him now  
as Mr. Climate Change  
but back then  
there was a lot of pressure  
because of special interests  
on the Clinton administration,

especially from big auto  
not to sign the Kyoto Protocol  
so we published his email address  
on our lids  
and he got like 130,000 emails.  
Now I sent 129,000 myself  
but all kidding aside  
I mean people wrote,  
and when the Gingrich Congress  
was coming in  
with the, you might remember  
it was called the Contract For America.  
I called it the Contract On America  
because part  
of what they were talking about  
was slashing funding for clean air  
and clean water.  
We published a lid  
that said Congress  
have you flipped your lid?  
And then when you flipped it over  
it had a petition  
that you could sign that said,  
dear Congressperson  
Tsongas or whatever,  
I believe in an efficient government  
but not at the expense  
of my children's futures.  
If you vote against the planet  
I won't vote for you  
and 15,000 of these lids  
actually got to Capital Hill  
and they were used in campaigns.  
I mean people held them up  
and said this is the power  
of people speaking  
so we have this power  
and Nancy is so right,  
we really must exercise it.  
-We have to be awake, right?  
We have to stay awake now.  
-Yes sir.  
Your comment about lids makes  
me want to ask about packaging.  
We have a strong motivation society  
to protect people from disease,  
and dirt and contamination,  
also from tampering,  
and as a result packaging  
is a huge consumer of resources  
and in a related area  
when you go to anything medical  
everything is disposable.  
Well this does consume

an enormous amount of resource,  
is there any way out of this?  
Yeah it's a fabulous question  
and you're absolutely right.  
You know the answer, we contracted  
the University of Michigan  
about 15 years ago  
to ask this very question,  
is there a sustainable  
packaging solution  
is what we asked them  
and what they came back with  
was that the number one thing  
that we can do is reduce the weight  
because weight equals  
embodied energy essentially,  
That which resin we use,  
whether it's number 2  
or number 5 is irrelevant in fact  
because energy is required  
to reclaim those plastics even though  
it's relevant to each of us  
who live in communities who recycle  
and only collect certain...  
By the way we collect  
all of our packaging  
you can send it to us,  
or bring it to us  
or whatever,  
we'll come collect it as well.  
We actually do that  
around the country.  
So the issue in the short term  
is weight reduction,  
the issue in the longer term  
is biological polymers  
and I don't mean corn.  
I don't mean corn-based PLA  
any more than corn ethanol is going to,  
that is a data.  
There are sugars now that can be formed  
into essentially a polyethylene  
so that when you finish the product  
you can actually compost it  
and build nutrition in your gardens  
and of course organic  
would be our strategy because  
then you'd have organic nutrition.  
Nice concentrations and so on.  
Medical waste obviously  
is a special case onto itself and  
this question comes up a whole lot.  
And you know, what we need to do  
is we need to find a way

with medical waste to achieve  
either sterility  
or chemical balancing but again  
it's as complex as...  
I mean each of these,  
each of the areas  
is going to provide  
technological challenges  
but the bottom line  
and the central point  
is absolutely weight is crucial.  
It leads me to say  
on a related but slightly broader  
notion that we need to be careful  
that we don't use  
the same short-sighted thinking  
that got us into this cul-de-sac  
to get us out of it.  
Not being obsessed  
with recycling is a good example.  
Recycling is not the solution,  
it's an absolutely critical part  
of the mix, as is offsetting  
but the really critical thing  
is that we find  
lightest weight stuff.  
Now that leads  
of course to the idea  
of well maybe we should provide  
more goods locally  
because if you have,  
if you support more local farmers  
then the food doesn't even  
have to be packaged  
in the first place. I mean you know,  
as my daughter says you know  
the pumpkin is packaged  
you know, inside itself  
and that's an important part  
of the mix here.  
I mean buying organic and buying local  
whenever we can is crucial  
but it's not always as simple  
as we may think  
because I can tell you that local,  
there are bad practices  
conducted locally that would lead me  
to never buy you know milk  
or other commodities  
and let me just give this example  
which is slightly related to packaging  
but I think you'll understand my point.  
We found ourselves  
with an organic milk shortage

about a year ago  
in this country,  
in other words  
demand had outstripped supply  
and we were wondering  
how we were going to stay in business  
because we couldn't  
convert farmers fast enough.  
It takes 3 years for a farm  
to convert their fields  
so we did find a surplus of milk  
which was in New Zealand,  
organic milk, bountiful  
and I said to my sister,  
who is our VP  
of natural resources,  
I said how do I tell my consumer  
that I'm bringing in milk  
from halfway around the world  
and I'm trying to be a green company,  
by the way we ended up not having  
to buy this milk,  
we solved it another way  
but nevertheless  
we did a carbon footprint analysis  
and we discovered to my complete shock  
that we could get organic  
dried milk powder from New Zealand  
to New Hampshire with about  
60% of the carbon footprint  
of getting fluid milk from  
the upper Midwest to New Hampshire  
and the reason was  
is there's no grain involved.  
It's 100% grass-fed system and the  
carbon footprint of grain production  
that feeds the cows  
and also by the way  
makes the cows produce more gas  
both ends,  
because cows shouldn't  
be eating grain,  
cows should be eating,  
they're herbivores,  
led us to understand  
it's how we produce  
that is as important as the distance.  
Food miles is one part of the equation,  
and so in the same respect  
as we look at packaging  
what we need to look at is,  
you know in my case  
we produce now our yogurt  
in form-filling seal packaging.

Instead of having a pre-formed cup  
made for us 500 miles away and shipped  
we actually buy sheets of plastic film  
and mold it on site  
and that enables to avoid  
a huge part of our carbon footprint  
and produces a very  
very lightweight cup.  
Again I'm not satisfied  
with this solution,  
in the end it will be  
a biological polymer  
but the point I'm making  
is in particular to Tyler  
and the students here who are looking  
at these incredible careers,  
advances on this very question  
will give us,  
I mean for us it's the fourth  
largest part of our footprint,  
and for our society it's probably  
second or third, our packaging.  
I'd just like to follow up. As one  
with considerable experience  
with the New Zealand area industry  
I'd like to make sure  
you've included the energy  
for spray drying. -For what?  
Spray drying in your carbon footprint.  
-Yes, yes we did.  
We looked at the whole system,  
soup to nuts  
and we even compared it  
to local powder.  
And spray drying,  
what he's referring to,  
is getting, evaporating the fluid out  
so it becomes powder,  
is quite consumptive, but net  
still it came out less.  
One last thing,  
when I took geometry  
they used to talk about  
the surface to volume ratio  
which means the bigger container,  
the smaller surface it takes.  
you make little ones and big ones,  
how does that balance out?  
Here here, no listen. If everyone  
would buy 32 ounces of yogurt  
at a time we would be thrilled. I would  
get out of the small cup business  
in a heartbeat. I agree with you.  
When we first launched our kids' line

about 20 years ago  
we provided refillable little cups  
and we said you know  
buy it in quarts,  
we didn't want to do all  
these little dixie-cup things  
and so you could get  
a free moo cup it was called  
and people, you know  
some people wrote in  
but you know in the end we're a society  
that demands convenience  
and so that's what led us to go from  
a pre-form to the form filling seal  
but we will have a compostable,  
edible, digestible cup  
before I'm done with this business,  
I promise you that.  
Ok we're out of time here  
and we're going to invite you  
to a book signing.  
I just wanted to see  
if you wanted, do you want  
to offer a closing benediction?  
You've given us so much already  
Mr. Hirshberg.  
No but just to buy  
a lot of organic yogurt.  
I just wanted to say, I wanted  
to say one other thing  
because I was so, I'm just so,  
I've learned so much tonight  
and I wanted to just put  
one other word before you  
and that is just our own health,  
the power of our health  
and the concerns of health to drive us  
to you know, the kind of path  
that Gary is laying out for us.  
I think consumer's health  
is the second most frequent reason  
that people use the internet,  
much more frequent  
than internet commerce  
and so through again  
the power of information,  
the power of our own quest,  
as consumers, but also as citizens  
and stewards of our own bodies  
and our children  
and our families' well being, I think  
we're really talking about you know,  
powerful powerful  
forces unleashed.

Act boldly and powerful forces  
will come to your aid  
and Gary is living proof of that.  
Can we, can you please join me  
in a warm warm round of gratitude.