I'd like to welcome everyone to the SolarFest 25th anniversary social distancing keynote address.


Mike Bailey, SolarFest Trustee

Right now, urgent discussions are taking place around transitions -- transitions in climate social justice, in the future of sustainability: agriculture, building, energy and economic sectors. And that is why SolarFest is honored to co-host this important conversation with the Center for the Advancement of Public Action at Bennington College.

Susan Sgorbotl is the director of the Elizabeth Coleman Center for the Advancement of Public Action at Bennington College and is generally the most interesting person in the room.

The former Dean of Faculty, she also created and directs the conflict resolution program and curriculum at Bennington. In 1999 Susan founded Quantum Leap, an organization that has reconnected more than 2 000 at-risk elementary, middle, and high school students to their education. Susan also co-created and was the first director of the Governor's Institute on the Arts, mediates cases for the Vermont Human Rights Commission, and has been involved in the field of dance for more than 30 years as an improviser, artistic director, dancer and teacher.

Susan, we'd like to thank you and everyone at CAPA for making this happen.


Susan Sgorbati, Director of CAPA

Thank you very much -- welcome everyone.

When I saw the list of all the people that are here today, I thought, 'Oh my goodness. If we were all to harness our energies, with the expertise and the energy that is in this online space right now, I truly believe that we could do almost anything we set out to accomplish in Vermont, but also nationally and internationally. So, I just want to say that I read a little bit about biographies of people on this call, so thank you so much for coming on today.

I just wanted to say very briefly a little bit about CAPA, that's what we call the Center for the Advancement of Public Action. Our mission is to respond to the urgent problems of the world, thinking that undergraduates, faculty and staff are able to do this but only with our local, national and international partners of which we have many now.

We work in human rights and peace building, the environment; food water and energy systems, activating democracy, art and public action and education.

Currently we are partnering with the Regenerative Food Network and many other partners that are actually on this call today on that are online now to create what we're calling the Southern Vermont Regenerative Food System. Many things are already starting to happen in this space that we're very excited about. And for those of you who are interested, please feel free to contact us.

Then lastly, we will, as Mike mentioned, we're offering - we're starting to offer some online classes starting in the fall that are not very expensive. If you're interested please let me know. These are courses for the public; local, national, and international, and they are in the area of regenerative food and agriculture, public health and social emergency medicine, social justice in the world of law, art, economics, and education, and beyond plastic pollution. So we're, I'm very, very excited about the group of people.

That's one good thing about being online now, as Lieutenant Governor David Zuckerman was saying, we can be in a space with other people around the world, where we can share knowledge even though you know I would also rather be in person. But I think having this opportunity to do this is something very unique and interesting, and how we can connect in this way.

So anyway, I'm looking forward to the conversation today, so I'll hand it back to Mike.

Thank you, Susan. CAPA is leading the way in exciting and inspiring ways.

Thanks to a generous donation from the Regenerative Food Network we are able to convene this presentation on the latest in regenerative thinking, to help boost revitalization and resilience skills for some of the people who will effect this transition: our elected officials, policymakers, educators, business and community leaders, as well as members of the media.

Our speaker today is Storm Cunningham, the Executive Director of the Reconomics Institute and the editor of Revitalization: The Journal of Economic and Environmental Resilience. Storm is also the author of three books: The Restoration Economy, ReWealth, and his newest book Reconomics: The Path to Resilient Prosperity. Published earlier this year, this is the first book on how to simultaneously achieve crisis recovery, economic growth and community resilience.

For nearly 20 years he's been coaching leaders worldwide on the latest trends, resources, and opportunities for the global restoration economy. Before this COVID19 pandemic this was reported to be a fast-growing three trillion-dollar economy. As Edward Cameron points out in his new book, stimulus measures from the G20 will likely reach an additional 5 trillion in expenditures and guarantees. So, whatever the number, this is an opportune time for big transitions.

Edward took a prayer from Eleanor Roosevelt as his title, and it's also our ask for Storm today: "Save us from ourselves and show us a vision of the world made new."

One housekeeping note: for the Q&A at the end, you can send in questions via the chat, or you can raise your hand to have your microphone unmuted.

And now, Storm Cunningham.

All right, well hello folks. I'm very disappointed that this is happening via zoom and not face to face. As a former Putney resident, I was really looking forward to coming back up and seeing Vermont.

Even though I only lived there for three years, it's always felt like my home state as a result of that short time.

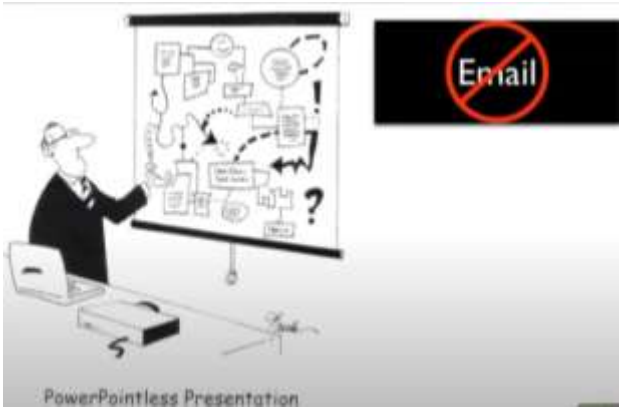
So, speaking of zoom, let me point out one concern here.

It's not the fact that probably half the people on this call aren't wearing pants, it's the fact that there are probably a fair number of people who are thinking well, I'll just listen to the audio and catch up on my email.

And that's not going to work because this is a very PowerPoint intensive presentation. I've got a ton of slides they're going to be going by really fast and everything I say is going to reference what's on the screen.

So, if you're not looking at the screen, you're not going to know what I'm talking about…and since I'm the expert from Washington DC, I'm the only one here who's not supposed to know what I'm talking about.

So, one good thing is that despite the PowerPoint intensity of this, this will not be a power pointless presentation.



Here's why you're probably going to leave this presentation empowered, assuming that you love reviving places.

And if that's the case you're going to discover a major trend that you can tap in order to fulfill your dreams.

You're going to discover a strategy that can make your dream project succeed.

And you're going to discover a process that can turn that strategy into funding and action

Now, I'll divide the presentation into four parts:

1. some background
2. discussion of the problems; both global and the ones that you're probably hit with locally
3. a solution to those problems
4. and where those solutions are going in the near future.

So, let's start with the background information.

As Mike mentioned, my first book was the Restoration Economy; came out in 2002.

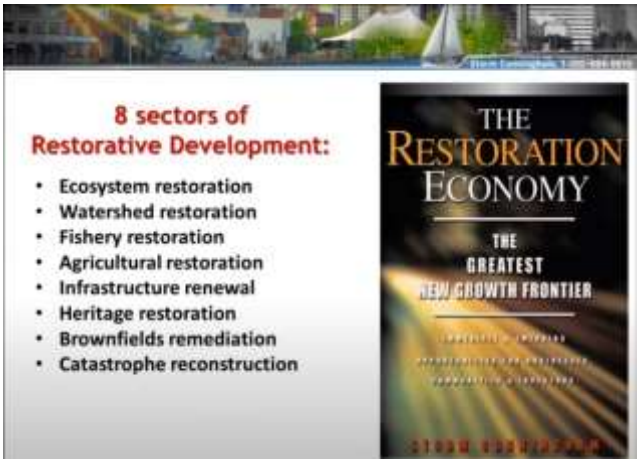
I started writing in 1996. So, a lot of the things that were described in this book are really only just getting going at that point.

You know, for instance, the year before – 1995 -- was when the EPA just launched their brownfields program. So, this book was the first to document the eight sectors of what I call restorative development.

it's kind of this kind of a taxonomy of the restoration economy.

There are four sectors in the natural side of the world:

ecosystem restoration, watershed restoration, fishery restoration and agricultural restoration.



And I should mention these are not scientific categories, these are more economic categories. These are the types of projects that get funded because scientifically, obviously, there's a lot of overlap amongst those four sectors.

The other four sectors are in the built side of the environment: infrastructure renewal, heritage restoration, brownfields remediation, and catastrophe reconstruction. That last one being, unfortunately, a rather fast-growing sector these days.

One of those sectors you saw was regenerative agriculture which I was happy to hear about Susan's new initiative.

That first book, The Restoration Economy, had the story of Joel Salatin in there, and anybody who's been involved in regenerative agriculture at all knows about Joel. He's one of the real pioneers he's right here in Virginia, and in that book, I had a whole chapter on regenerative agriculture.

Back then and I was describing it basically as agriculture that increases the quantity and quality of top soil, helps restore the local bio-diversities, especially native pollinators, helps restore the watershed, and revitalize the local rural economy.

Since then the carbon sequestration aspect has been added to it, so it becomes part of the climate solution. And that that's the good thing. The bad news is a lot of people are trying to kind of reduce the scope of what regenerative agriculture is, and now you'll see people basically saying well if it's organic, it's regenerative, or if it's no-till, it's regenerative. And you know that's really not the case, and part of it is determined by what you're starting with.

For instance, if you take a pristine old-growth forest and cut it down to build your biodynamic farm, that's not regenerative agriculture. If you take an old abused farm as Joel Salatin did in 1961, or his family did in 1961, and turn it into a super productive farm in a way that rebuilds the top soil and local biodiversity and local economy, you know that's regenerative agriculture.

Now I mentioned EPA had just launched their brownfields program the year before I started writing the book. That's become what might well be the most effective and efficient US government program ever created.

It's got an average of 18 to one return on investment -- you know for every dollar that's put into stimulating local cleanup and redevelopment of brownfields, it attracts 18 of private investment which helps revitalize the place. Now I should put that in perspective, though.

The total EPA brownfields budget last year was under 55 million dollars, which is about a quarter of what Jack Ma spent on a single house. So we've got a lot of room to expand our priorities here.

Now some places do even better than that 18 to 1. Michigan has documented a 42-1 return on investment on brownfields and Minnesota seems to be the champion at a 44-1 return on investment.

Now since that book came out some leaders have really jumped on the bandwagon big-time, and some of them; virtually everything they do starts with RE.

Like Steve Bellone, County Executive up on Long Island. And, Governor Wolf in Pennsylvania, recently introduced his 4.5 billion Restore Pennsylvania program which is supposed to rebuild their infrastructure among other things. The downside of that program is being funded by fracking money, so you gotta look carefully at some of these RE-programs

And even ecosystem restoration, which you normally would not think of having a return on investment, but they documented a four to one return on investment for everglades restoration.

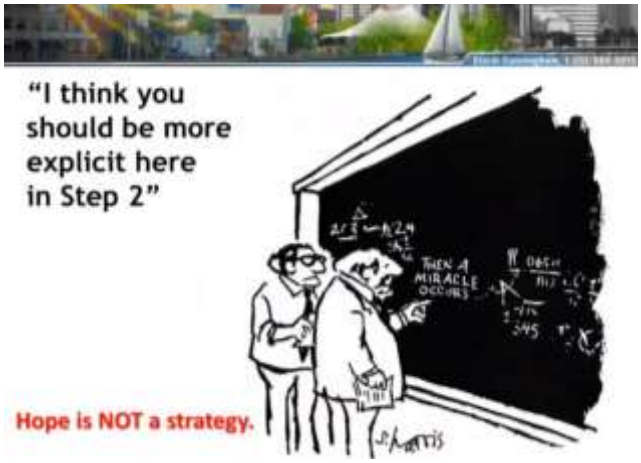
So that was kind of the stuff that that first book dealt with, and as a first-time author I made all the useful mistakes, you know like this one, but I decided to go ahead and do it again.

And in 2008 my second book came out: ReWealth from McGraw-Hill. And this one kind of -- if you looked at the first book it was kind of the ingredients of revitalization: all the different kinds of projects you can do to bring a place back to life. This one looked more at the recipe how do you put all those projects together in such a way that you get what people really want, which is economic growth, more jobs, higher quality of life.

You might be wondering why I've got a snow storm on the cover there. That's actually not the storm, that's the Gobi Desert which has been marching on Beijing like an army for decades now and has been expanding at an incredibly fast rate. You can see this guy's pedaling like crazy.

I put that on the cover because they've been planting literally billions of trees by hand to restore the forest and hold back the desert.

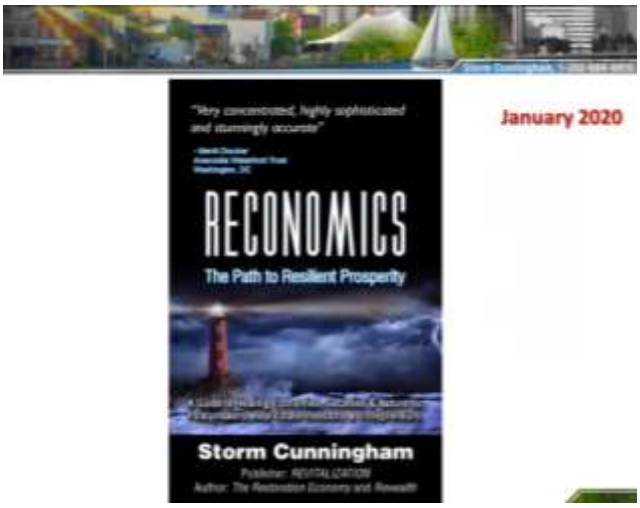
So, this first book was kind of the answer to this cartoon here. because this is how most community revitalization works: people do a bunch of good stuff, you know, restore a historic building, rebuild their infrastructure, clean up a brownfield, clean up a river, and they just kind of hope that somehow revitalization magically occurs. And you know we're talking about the future of the community here, or the region, or the state, or whatever.



You know, it's kind of irresponsible, I feel, to rely on hope…rely on miracles…rely on magic. You know that somehow this is magically going to emerge from all this activity.

Because I can tell you -- I've been doing this work now, all over the world for the last couple of decades, and you know I've seen a ton of places do a ton of wonderful work and not get the revitalization they were hoping for.

So, as Mike said, in to in January my third book came out Reconomics: The Path to Resilient Prosperity. And this is taking it to the next level, and I'll return to what the core of this book is all about in the final section of this talk; the one on the future.



One of the folks that I've known and worked with from time to time over the last decade or two, has been Bruce Katz who used to be with the Brookings Institution. And he's talking about how, you know, up to now we've been relying on business incubators and business accelerators. But now, thanks to COVID 19, what we really need now are business regenerators.

And the good news is that this RE stuff is really starting to take off. Finally.

It took a lot longer than I was expecting. I mean it's there and it's huge, but it wasn't really as much a part of the public dialogue as I was expecting it to become. But it is definitely gaining a lot of traction right now.

So, let's move on to this second part, and talk about the problems that we can deal with, with this perspective.

If this were a live presentation, I'd ask you to hold up your hands if you've ever heard of the Anthropocene. I'm going to assume that everybody would have raised their hand.

If not, welcome back from Uranus, I hope it was a great trip, because there's been a lot of publicity about the Anthropocene over the last decade or so.

Basically, what it is, is that our previous mode was called the Holocene which is defined as the point at which humanity started affecting the world around human activity, and that goes back about 12 000 years. And during this time, we've grown our economy through a process I call adaptive conquest; basically it means we've been extracting virgin resources, we've been sprawling our towns into cities, sprawling our farms into forests. and we've been fragmenting everything: stopping flows with fences, walls dams, geographic political boundaries you know, everything's fragmented these days.

And so, we've grown our economy quite nicely as a result of that. You can see on the vertical axis there the economy has been going up but the resource base has been going down, because none of that, very little of that activity was sustainable.

Now the bad news is if we stay in adaptive conquest mode, then both our economy and our resource base will go into long-term decline because we've reached that Anthropocene, which is defined as the point at which human activity dominates every aspect of the world.

Now the good news is that there's an alternative mode; one that has already begun, which I call adaptive renewal. Which is, instead of extracting, sprawling, and fragmenting, we're repurposing the assets we've already created: we're renewing those assets, and we're reconnecting those assets, and if we do that both our economy and our resource base can go into a long-term incline.

So, here's a typical Anthropocene scene – uh, say that three times in a row.

This is Bangalore, India, which has so much industrial activity that dumps toxins into the nearby lake that whenever there's a wind that comes up it turns the surface of the lake into toxic, nasty smelling foam.

And you've all seen the photographs of the ways that wildlife is suffering in the Anthropocene. And, of course, it's not just wildlife, it's also the next generations; future generations that are having to live in the filth that defines much of the world these days.

And at this point some of you might be looking at that photo and saying, 'okay, yeah you can always find some really nasty, dirty, filthy places on the planet, but there are so many places on the planet that are pristine and beautiful still. But that's not really the case. Most people would think of Bali as being one of those places, but this is Bali these days. And this is what it's like surfing in Bali these days.

Now it's not that the Balinese are especially dirty people. This garbage is coming in from all over the planet; just happens to wash up on their shores. In fact, there are no pristine places left anywhere on the planet…everywhere is contaminated to some degree, by radioactivity, chemical pollution, invasive species, you know, you name it.

So, it's no longer a matter of conserving the last pristine places it's really just a matter of how much restoration is needed in any given place.

Another typical Anthropocene scene that strikes some people a lot closer to home. And it's when you see the environmental damage you got to remember that this is also economic damage, you know.

For instance, in coast in Queensland, Australia most of their economy is directly or indirectly based on tourism. And this is traditionally what their huge beach looked like. That drove that tourism, but that's what the beach looks like today, as a result of sea level rise and much more frequent and powerful storms.

So, they're not just talking about aesthetic damage or ecological damage here; talking about economic damage. And of course, as usual, it's the people who are at the lower end of the economic scale who are suffering the most.

So that Holocene mode of sprawling and extracting and fragmenting was based on basically what this cartoon talks about. You know, we just looked at the world and thought about how can we adapt this, adapt this to our needs, and sometimes we built beautiful places, and sometimes not so beautiful.

So, you might be wondering, 'You know I hadn't hardly heard of the Anthropocene a decade ago how did this come along so quickly?' You know, how did it sneak up on us? Well, part of it is population growth. I mean look at that growth curve there. I mean, it's not even a curve, it's more like a vertical line.

But it's not just the number of people that we have these days, it's also the consumption. We're just consuming a heck of a lot more per person than we ever did in the past.

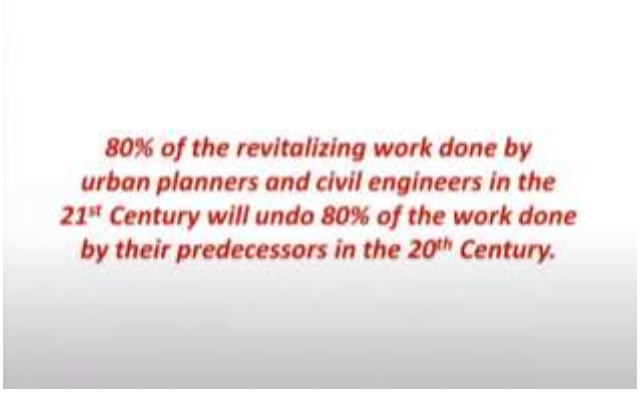
So now basically you could define the Anthropocene as the time during which we need to adapt to our adaptations. We've been adapting the world to our needs exclusively for 12,000 years and there are a lot of unforeseen circumstance, results from that, things we're now suffering from as a result of that activity.

So, we need to adapt to our adaptations, and obviously, climate change is probably the most important of those results from our adaptations.

A lot of this damage to the world, and a lot of the economic growth and the building of the wonderful places we do have all over the world, came about as a result of engineers. Engineers whether you're talking mechanical, or electrical, or structural, or civil, their basic goal in life is to eliminate surprises. And if you're swimming in that pool, right here, you would probably applaud that goal. The last thing you want at that point is a surprise. Same as if you're going over a tall bridge, or under a deep tunnel, you don't want any surprises.

The problem comes when that goal of eliminating surprises is applied to the natural world. And the U.S Army Corps of Engineers, most people would say, have done far more economic damage to the United States than all of the foreign militaries combined as a result of impeding the flow of our waterways and undoing a lot of the natural resources that we've got.

So, this is kind of the future. Those of you who are looking for opportunities; if you're in the design or planning field, this is probably the easiest way to define where the cutting edge is going to be -- where the opportunities are going to be. It's in undoing the work of your predecessors.



Basically, these days good planners are undoing the work of bad planners. This is a great; somebody recently set up this photograph to look similar to this one taken back in 1982 to show how much better the planning is in Utrecht, Netherlands these days from the old automobile-centric planning of the 80s.

So, you probably couldn't hear what I started to say there during those explosions, but basically we've got 84 000 dams in this country.

The vast majority of them fall into one of two categories: either they've outlived their original purpose, or they never had a good purpose to begin with. Believe it or not, the Corps of Engineers built tens of thousands of dams just to use up their budget. Like a lot of the military they were on a use it or lose it basis. And if they didn't use their budget this, year their budget was reduced the next year.

And they just kept on building dams, wherever.

It has been said that in the whole history of humanity no civil engineer has ever seen a natural stream without thinking, "Wow that really needs to be straightened and down," so, a lot of the work that needs to be done in the natural environment these days is undoing civil engineering.

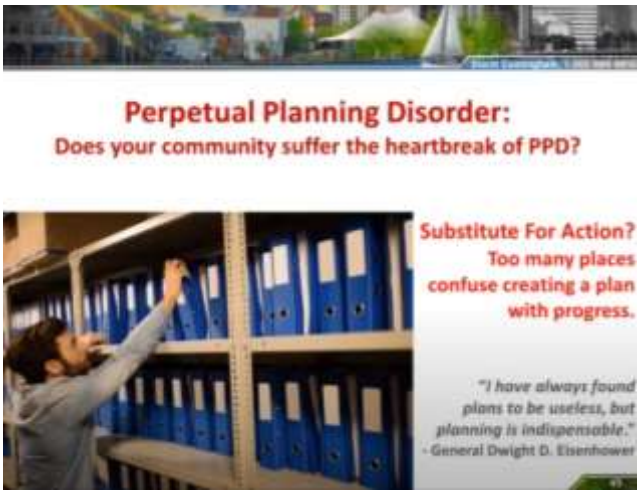
Now these days, most communities are suffering from what I call economic renewal diseases, and there are two of them that are predominant. One is perpetual planning syndrome and the other is process deficiency disorder.

We'll deal with the perpetual planning syndrome first. Almost anybody who deals with urban issues these days decries the days of urban renewal and all the damage that was done to our cities by bad planning half a century ago.

But it's not just bad planning; part of it is this ongoing war between trying to control human behavior, and the way humans really are. But it's also a matter of relying too much on planning to get things done.

As a great line from the movie Tremors, which really reflects how most communities operate.

Most communities, I'm sure this doesn't happen in Vermont, of course, but in many cities the elected leaders use planning as a substitute for action, because there's no risk involved. You can commission a plan, and announce to the public the comprehensive plan has been commissioned, and you got a feather in your cap. When the plan is delivered you do another press conference; announce that we now have a plan and you've got another feather in your cap. All that's required so far has been writing a check. The risk comes when you try to implement that plan.



So, what usually happens is the plan goes on to the shelf and five year, 10 years later the plan needs to be updated and the whole feather in the cap sans risk cycle starts all over again. And meanwhile people are convinced that, "Well we've got a plan, so things must be happening."

So, it's not a substitute for action, it's not a substitute for progress, it's not it isn't even a form of progress. In many cases it actually is the major impediment to getting revitalization done.

As Eisenhower said, he's always found plans to be useless but planning is indispensable.

So, if there is a difference here, it's the document that could be damaging, not the act of planning itself. And what happens is when places don't make progress people start to lose faith in their future. And this is absolutely crucial: the universal goal of any revitalization program, no matter what the detail goals are, the overall goal has to be increased confidence -- to increase confidence in the local future.

Our entire monetary system is based on confidence. There's no gold behind the U.S. dollar anymore. The only thing that makes a piece of paper worth more than the intrinsic paper itself is the fact that people have confidence that it's going to be worth something tomorrow. Keep that in mind as we're talking about revitalization. The goal has to be to increase confidence in local future, because if you get that you'll attract residents, you'll attract investors, and you'll attract employers. If you lose it you lose residence, you lose investors, and you'll lose employers.

And there's a feedback loop at work here. You know, if you have lack of confidence in the local future you'll start to devitalize like I said; you'll lose those investors, and residents, and employers, and as a result of those people leaving you'll further devitalize which further reduces confidence in the local future, and it just keeps looping around: the less confidence you have, the more devitalization you have.

The good news is that the reverse is true; is that when you increase confidence in local future it increases your revitalization activities. And every time one of those revitalizing activities is successful it increases confidence in local future, which attracts more investment and enables more revitalizing activities.

And that feedback loop can result in some very non-linear results, surprisingly fast in both directions. Here's what it looks like in a simplistic graphic: you do some fixes to a place, it increases confidence into place, it tracks investment in place, which allows you to do more fixes. And it's kind of like physical exercise: the more you exercise the more you can exercise, the less you exercise the less you can exercise. Same with regeneration.

Now water issues are the things that undermine confidence probably more than any other.

And if you're in Miami these days you've got to seriously wonder about how you're going to build confidence in your future because they've got three related three water related crises going on.

They've got the more frequent and worsening floods -- downtown is constantly underwater -- you've got beach erosion and other storm damage from the increased severity and frequency of storms, and you got loss of drinking water as the salt from that rising sea level infiltrates your aquifers.

And when you hear announcements like this that, you know, the country is going to move their capital out of your city to somewhere else because your city is going to be underwater soon, that tends to reduce confidence in the future.

Makes me wonder just how much investment, new investment is coming into Jakarta these days.

Finally, people are actually starting to measure the economic cost of loss of confidence.

This measured the loss of real estate values in the places where people were convinced along the New Jersey, New York coast that were going to be subject to more frequent storms in the future. So, the question has to be, you know we're talking we've been talking about sustainable development now for 30 years but do we really want to sustain this mess?

The good news is that the best sustainability work isn't really sustainability, it's actually based on regenerating our assets, and the best revitalization work is also based on regenerating assets, and the best resilience work is also based on regenerating assets. So, it's really not sustainability we need, the solution is restoration, redevelopment, regeneration.

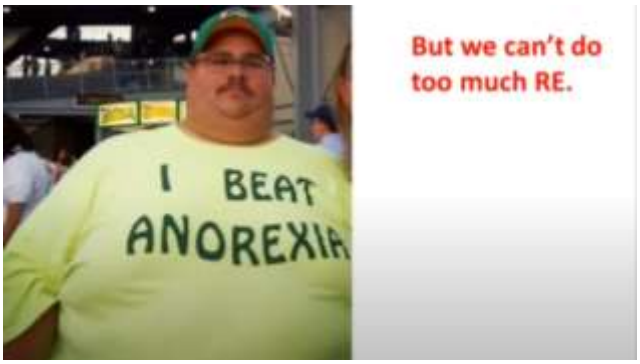
As the bishop of London said, I'll let you just read that. This came out just a few years after my first book the restoration economy.

So, what we're talking about here, as we're moving from the Holocene to the Anthropocene, is basically just a shift in prefixes. That's really the key to this regenerative growth, this regenerative economy, is just that shift of prefixes. We're shifting:

- from development to redevelop
- from despoilment to remediation
- from depletion to replenishment
- from demolition to restoration
- from degeneration to regeneration

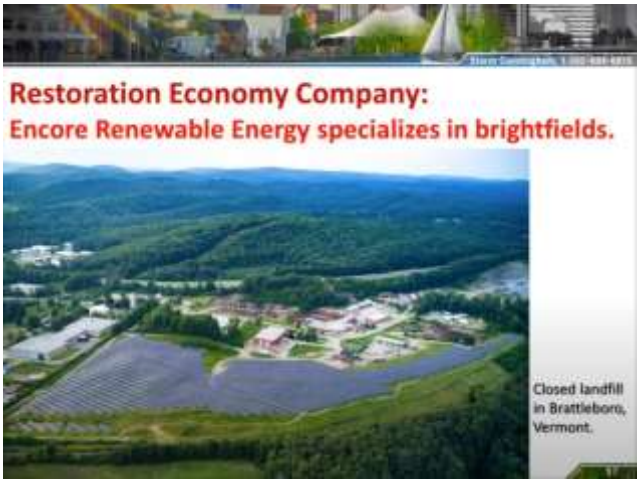
which basically means we're shifting from a de-economy to a re-economy. We need to stop being degenerates, in other words, and start being regenerates.

Now humans have a tendency to go too far when we're addressing a problem. The good news though is they really can't go too far with RE. I mean, you can do restorative, regenerative, revitalizing projects badly, but if you do them right you really can't do too much of them.



I've been doing this work now for 20 years, full time, all over the world; all kinds of metropolitan and rural areas, and I have yet to hear anybody in a community say,

"Oh my God, you know we got to slow down this river restoration project, you know the water is getting way too clean, we've got far too many fish in it now," or, "Oh my God, we've got to slow down this brownfields remediation program, and we're running out of contaminated property," or "Oh my God, we've got to slow down this community revitalization program, I mean our quality of life and our economy are going way too high."



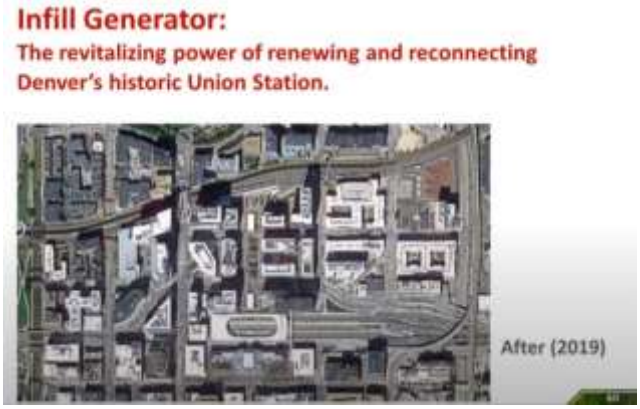
You just don't hear complaints like that. And Vermont obviously is no stranger to the restoration economy. If you read Revitalization, you've seen some of our coverage recently, like Encores activities. I love that photo. Since having lived in Putney, I'm quite familiar with Brattleboro, and I'm sure you folks have heard all about that.

Now the key thing about the restoration economy is that it's not just undoing damaged places, it's also revitalizing underutilized properties.

Almost any downtown you can find a spot in it that really isn't living up to its potential.

The problem is that has ripple effects: that you get a dead spot like this one in Denver where the Union Station had been shut down and basically they were thinking of demolishing it, because falling apart and the poverty and loss of jobs just spread out from that site, all around that dead station.

But then they decided to restore and revitalize it and all of that dead space all that infill opportunity; it's now full of life again just because that dead spot at the center had been revived.



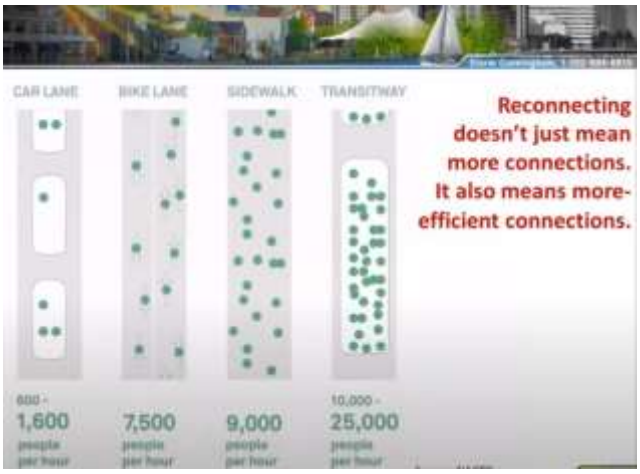
Another key thing, obviously, with community revitalization these days is affordable housing. You know, if the people who are running your economy, people providing all those low paid service jobs, can't get to their jobs easily or cheaply then it's going to undermine the economy, as more than one U.S. city has already discovered. And most people think of affordable housing as being defined by the price of the house, or the rate of the rent.

But that's only a part of it. It's also transportation; if the transportation costs from your cheap house or your cheap apartment are super high then that's not affordable housing. So public transit is the key. Some countries take it more seriously than others.

And this gets back to that reconnecting dynamic I was talking about. In the Anthropocene it's not just about more connections, it's about more efficient connections.

So how exactly do you revitalize a place and make it more resilient?

- If you talk to a planner, they'll say it's all about planning
- if you talk to an engineer, they'll say it's all about efficient infrastructure
- talk to environmentalists, they'll say it's all about health and green space
- if you talk to a real estate developer, they'll say it's all about more housing, or office space, or retail
- if you talk to law enforcement, they'll say it's all about public safety
- if you talk to economic developers, they'll say it's all about jobs
- if you talk to politicians, they'll say it's all about vision, leadership, and tax revenues
- talk to the architects they'll say it's all about design or their brand name for it, like new urbanism or place making or whatever
- and if you talk to a consultant it's all about whatever the fat of the moment is
- land banks of course say it's all about blight removal



And the fact is that all of them are right, but all of them are wrong too if it's being done in a strategic vacuum.

Because all of those things are really just tactics, and it's strategy that determines success. And one of the characteristics of a good strategy is that it bridges silos.

That's part of this whole fragmentation; it's not just physical fragmentation, we've got fragmentation of disciplines. and people in many different ways. For instance; you've got the water people all over the world especially in agricultural regions, you've got these vast canals, these concrete lined canals that transport water sometimes hundreds, or even a thousand miles, to farmland usually trying to turn desert into farmland. And along the way an awful lot of that water evaporates because it's just exposed to the heat & wind. And the water folks, and the agricultural folks, are in their silos thinking, "how can we possibly cut down on that evaporation?" And, obviously, putting a roof over it is one way to do it, but that's incredibly expensive considering how long these canals are.

Now, on the other hand, you've got another silo you've got the renewable energy people who want to cover the earth in solar panels. And the trouble is, a lot of the wide-open spaces that are available for solar panels are actually wildlife habitat, or they're arable land. And if we want to build a restoration economy with renewable energy, we don't want to be using up arable land or wildlife habitat. You know a desert is an ecosystem, too. It's not lifeless.

So, a good strategy would put those two silos together as they did in Gujarat, India, where they said, "Well hold it, if we've got all that space there where we've already got the right-of-way, why don't we just put our solar panels over the canals. That will function as a roof, cut way down on evaporation, and we won't have to buy a single acre of land, and the solar panel can power the pumps as well as power the pumps that move that water along as well as power almost all the villages that are along the way. And that's exactly what they did.

So that's the essence of a really good strategy, is integrating the silos.

There are all kinds of examples of that; this is a lobster farm in China where they realized that their lobsters weren't doing real well because the water was overheating, so they put their solar panels on top of there and provided the shade the lobster production went way up and the free power to boot.

Another example of that kind of silo-bridging trend is the agrovoltaics trend.

Hey, you might think, well heck, if you put solar panels over your crops, they're not going to get sun, you're not going to have any crops, but that's just not true.

I won't read this off; this is just a few of the success tips that they discovered as a result of combing crops with renewable energy production.

There are a lot of crops that don't want sun all day long. Even the ones that say they want sun all day long, really only use it for an hour or two

Revitalizing farms & rural areas via agrivoltaics

- **Diversifies income**
- **Best close to urban areas** (to reduce energy transmission losses)
- **Extends photosynthesis** (only an hour or two in full light)
- **Improves productivity by reducing mid-day temperature**
- **Retains ground water**
- **Shelters chickens from raptors**
- **Sheep work well** (not goats, which eat wires)
- **Photosynthesis plateaus: does not increase in brighter sun**
- **Berry bushes do very well, as do tomatoes and peppers**
- **Cuts down on wind damage & transpiration**
- **Provides shade for farm workers**
- **Can also be used for flowers to boost pollinators**
- **Goes well with no-till**

So, here's a quick test for you. Next time you're talking to somebody who says they're going to revitalize a place, a community or region whatever ask them what their strategy is. Now, if they're still talking a minute later, they might actually have a strategy but it's not a good one, because a strategy you can't express in a minute or so is useless. A strategy has to guide decisions, and if you can't keep it in your head, if you have to pull a book off the shelf, you know it's not going to guide any decisions.

Now if they say read the plan, then they don't have a strategy, but they might not know it. They might actually think a plan is a strategy, and if they say go to hell that means they don't have a strategy, and they know it. A lot of people are very defensive about that question.

Quick Test: If someone says they are going to revitalize a place, ask what their strategy is.

If they're still talking a minute later, they might have a strategy, but not a good one.

If they say "*Read the plan*", they don't have one, but might not know it.

If they say "*Go to hell*", they don't have a strategy, and they know it.

Now the funny thing is that corporate America and the military value strategy. You know, it talks strategy all day long. But where you don't see it is in the people who are managing local recovery, revitalization, restoration, resilience programs.

Corporate America values strategy:

Why don't restoration, revitalization and resilience managers?

"The best CEOs I know are teachers, and at the core of what they teach is strategy."
– Professor Michael Porter, Harvard University

Now I'm going to offer a generic revitalization strategy, and that's going to strike some folks as a rather strange thing because, I mean heck every place is different, every place has different goals, different challenges, how can you possibly have a generic revitalization strategy?

Generic revitalization strategy.

But remember that the world has been affected by basically the same activities, generic activities for 12,000 years. You know, all that fragmentation, all that depleting of natural resources, all the aging assets. So virtually every place you go on the planet these days is covered in obsolete, decrepit, and fragmented assets.

Most places have obsolete, decrepit, fragmented assets.
To revitalize, they all need to:

1. **Repurpose assets**
2. **Renew assets**
3. **Reconnect assets**

So, to revitalize, every one of those places needs to repurpose those assets, renew those assets, and reconnect those assets. and I put it in that order because oftentimes before you can renew an asset, before you can get the money that is needed to renew an asset, you need to come up with a viable new purpose for it. So, the repurposing comes first; once you've figured out the new purpose for this asset, whether it's a building, or a road, or whatever, or a piece of exhausted farmland, then you can set about renewing it.

3Re Strategy:
Repurpose. Renew. Reconnect.

And the step that most places forget about is reconnecting it. You know, most places stop at the renewing, and they can double or triple the value of that revitalizing activity if they if they just remember to properly reconnect the property.

So, that's my generic strategy, I call it the Three RE strategy. It's explored in a fair amount of depth in the book Reconomics

Repurposing, renewing and reconnecting 11 acres of abandoned industrial land in Queens as Hunters Point Waterfront Park (2018).

I could talk for the next 24 hours, you know, showing you examples of the Three RE strategy in use.

Here's a more recent one, in Queens; the Hunters Point waterfront park, which was a decrepit contaminated old industrial area and has recently been turned into a public park with all kinds of restored ecosystems, so it's bringing back the ecology, the quality of life, the economy.

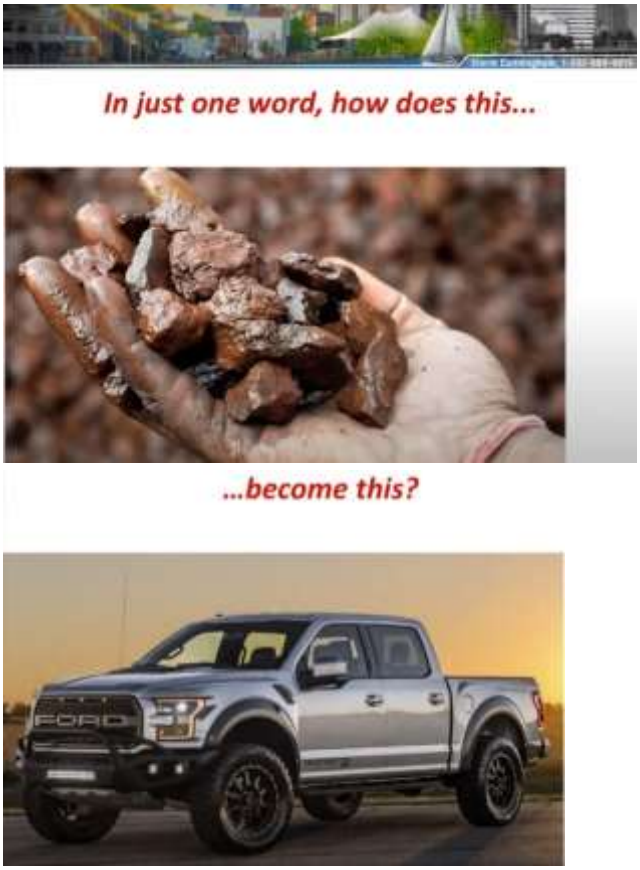
Just a wonderful example of the Three RE strategy in action because they repurposed the industrial land, and once they figured out that it was going to be a public park then they were able to attract the money to renew it, and then they reconnected this land because this ugly nasty property had been kind of shut off from the community, so they had to reconnect it to the community in order to get the full revitalizing value.

If you want to read more about examples of Three RE in action just go to revitalization.com, that's the official journal of the Reconomics Institute. It's got over 7,500 articles in it that you can search by keyword.

And one just one example that you'll see in there is from the issue number 87 which showed how Boston was applying Three RE strategy for resilience. So, they're going to repurpose, renew, and reconnect every square mile of waterfront property, and they've got a ton of it, in order to boost the resilience of the city.

But a good strategy isn't enough. Which brings us to the last section of this talk: where we're going in the future. Let me ask you a series of quick questions.

- In just one word how does this handful of iron ore become this? It's actually probably a bad example there since the Ford trucks these days are mostly made of aluminum, but you get the idea.
- And just one word: how does dog food become dog poop?
- In just one word how do peanuts become peanut butter?
- In just one word how does a decrepit abandoned section of the city become revitalized?
- In just one word how's an old landfill become the newest and largest state park in New York?



Here's a hint: if you were paying attention to the very beginning of the talk, you'll know that the word is process. Everything that's reliably produced has a process: real estate developers have a process for revitalizing redeveloping a brownfield, restoration ecologists have a process for revitalizing ecosystems.

So why don't Mayors and Governors have a process for revitalizing places? You know the individual projects each have processes. You know when they're redoing a building, or a street, or brownfield, or whatever -- you talk to the people who are doing it they've got a process.

But when you start talking about the larger scope of it. revitalizing an entire community, or county, or state, the process just goes right out the window and we're back to that old cartoon about hoping for a miracle.

So that's a second of that economic development disease that I mentioned before. This one I call process deficiency disorder, and once again, just with like with strategy, corporate America and the military value process.

Rex Tillerson might not be the most inspiring person in the world, but it's a good quote. And again, why don't the managers of recovery, revitalization, and resilience have a process?

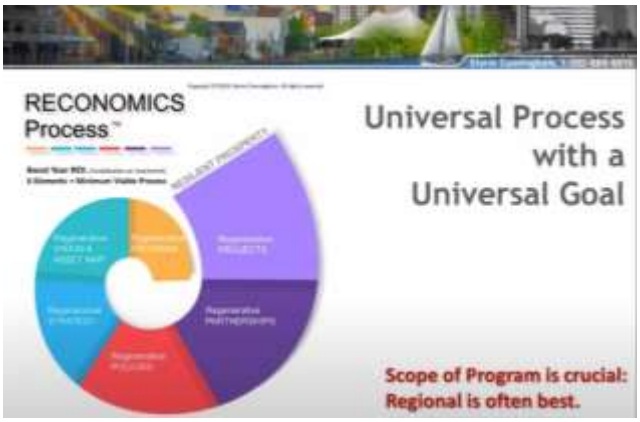
So, like that generic revitalization strategy, here's what you could consider a generic, comprehensive renewal process:

- First of all, you have to have a vision, because that guides actions to the right outcome
- You have to have a strategy to guide those actions to success; that's the whole purpose of a strategy is to produce success
- You have to have policies that enable those strategic actions. It's amazing, the number of places that say we want this but they've got policies that don't allow it
- you have to have partnerships to bring together all the assets needed to make those actions happen
- The projects are the actions. Those are the tactics; those are the things that actually create the revitalization
- And key to creating that confidence in the future that we talked about earlier, is you have to have an ongoing program

And most places have maybe three of these elements of the process:

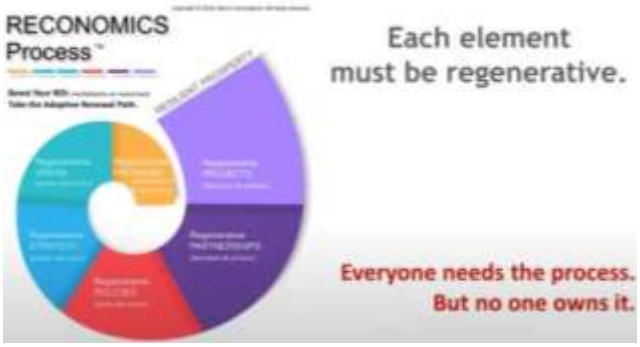
- Very few of them have an ongoing program, that acts as a flywheel to gather the momentum from each project, that makes the subsequent projects easier
- Very few places have a real strategy
- A lot of places have visions because that's kind of an easy thing that garners a lot of good publicity
- And most places have partnerships and projects, but the strategies, and the policies, and especially the programs are usually missing

All of these are essential, but you know I've never seen a place with an absolutely complete process. So, here's what it looks like in a graphic. And the scope of the program that holds all this together, the ongoing program, is crucial here since you're dealing with a lot of natural assets.



Here regional approaches are the best. And you might think, "Well okay, program, vision, strategy, policies, partnerships, you know projects. And that's all pretty obvious stuff.

But the key thing, if you look a little closer, it's not just strategy; it's not just policies; not just partnerships; it's regenerative. Each of these activities has to be regenerative in nature in order to result in what I refer to as resilient prosperity, which is kind of one of the universal desired outcomes that virtually any stakeholder would agree with.

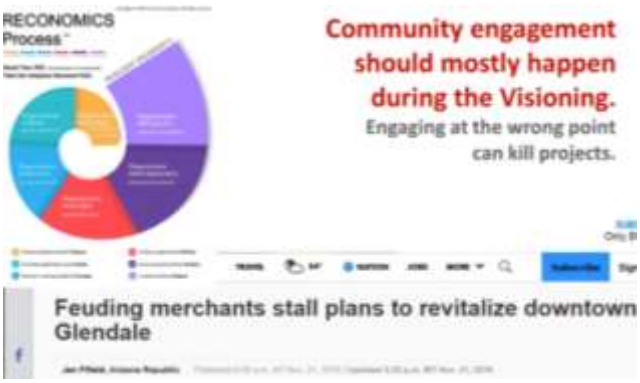


So, everybody needs the process, but nobody actually owns it. You do usually have to have some organization; usually a non-profit, that you might say owns the program or at least runs the ongoing program, but the rest of it is just totally distributed throughout the community.

So virtually every place I've gone to, around the world, has at least two or three of these elements, some even have four or five but I've never, ever seen a place that had all six elements of this. And the reason isn't that the local people are stupid, or whatever. It's just that they never had a template to work from. They never had a way of doing a gap analysis to figure out what was missing.

So, that's what the new book Reconomics is all about. It gives them something to shoot for, and one of the things I tell folks when I'm doing workshops, especially those dealing with social justice, environmental justice, places that have a lot of corruption in their local leadership, is if you can't trust your leaders you should at least be able to trust the process. And community engagement is something that gets a lot of publicity, but it's often done badly. In fact, a lot of places it's really more community enragement, because it's so lip service and really not very effective. And a lot of times the reason it works poorly is because not knowing what the process is, people do it at the wrong point.

For instance, community engagement at the project level is usually disastrous. You know these redevelopers are working on borrowed money;' the last thing they need is a last-minute hold up. That's what kills things is last minute delays.



You've got to do the stakeholder engagement at the appropriate points of the project. and that's what happens: just one example from a couple years ago when you don't do the engagement at the right point.

Now even if you've got a great vision, strategy. an entire process, you know you're always going to have surprises.

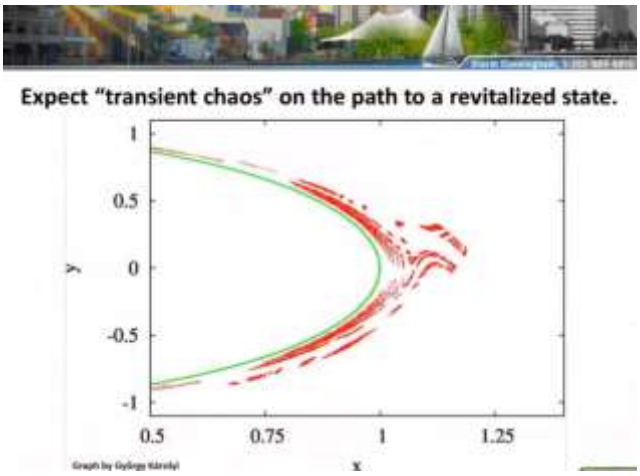
Don't think that all this is going to work like some kind of a reliable machine.

The person who painted that truck probably had no practical way that they could have foreseen what was going to happen when the door was open, so the surprises are always there.

And Susan knows, since she studied complexity science as well, that there's a dynamic called transient chaos: that when a system is moving from one state to another it goes through this period of chaos. Sometimes doesn't last very long, sometimes it's extended.

And what happens is, if local leaders don't understand that as they're transitioning from devitalization to revitalization, and then they hit that moment of transient chaos, they panic they think, "Oh my God, this isn't working. Let's stop what we're doing."

And so, they've gone through all that work to revitalize the place and they abandoned it just before they're about to get the rewards, just because that unexpected chaos scares them off.



So, I should mention this is the minimum viable process. You can add to it. For instance, if your community is required by law to have a plan you can stick a plan in there. But it's just got to be stuck in it at the right point so it doesn't gum up the works.

So, this is why you should have a complete strategic renewal process. As you're adding the vision, the strategy, the policies, the partnerships, projects: the overall program; each time you add one of those things you could say your renewal capacity goes up. Your ability to revitalize. But it's not until it's complete that it really shoots through the roof.

And the good old, tried and true, SWOT analysis is something I use a lot. I do a regenerative version of it I call the RE-SWOT analysis, which helps places respond in a regenerative way to their local assets and needs, and discover the obstructions to their dreams.

So, if anybody here would like to regenerate the world for a living, or regenerate your part of Vermont for a living, go to Reconomics.org.

You can get certified as a revitalization resilience facilitator, because believe it or not, there's never been a profession that's focused just on revitalization. Which is really weird, because there isn't a place on earth that doesn't want more: a higher economy, a higher quality of life, more jobs, and this is an online degree, so you can do it while sheltering at home. And it's run by Reconomics Institute, which I started in January, the same time the book came out.

And that's all I've got for you…thank you, folks.

Storm Cunningham

Bill Laberge, SolarFest President

Steve Berry, SolarFest Trustee

SolarFest: We have about 25 minutes for questions, so I'm going to open up the chat. If anyone is interested in posing a question directly, you can unmute yourselves, but please let me know. Raise your hand: just let me know what you're planning to ask.

So, I'm going to start with a couple of questions that were submitted earlier. The first question was from an educator: "what's the best way to reach people and inform them about the regenerative era? She said, "I keep trying presentations, tabling events, classroom presentations but I'm not making much impact and what are the things that, for instance, the black lives matter movement that are going to help us reach this pivotal point?"

Storm: Yeah, so one of the reasons the BLM movement has been so successful, and really the reason almost any other major movement has been successful, is because it's locally focused. You know, it's a national or international movement, organized locally. And the problem with getting across the kinds of education that needs to be repeatedly inculcated in local thinking and policies, is to make it ongoing. You know, doing the occasional talk, occasional workshop, occasional summit, as your questioner has discovered, really is not all that effective. The key is repetition. Any good teacher will tell you the key is repetition. And so, the key to that gets right, not to sound like a broken record, but it gets back to having that local renewal process. If you've got the process you've got the ongoing program; if you've got the ongoing program you've got an ongoing venue for getting those messages across at the appropriate time as the community goes through its revitalization process.

So pretty much any question you're going to ask, I'm going to come back to process: I'll warn you ahead of time.

SolarFest: Okay. There are a lot of plans being put forward right now -- in the current issue of Revitalization, The Carbon Crossroads, you highlighted a report from Boston Consulting Group that talks about actions. And the International Energy Agency just released their sustainable recovery plan. Meanwhile, others were warning that, you know, the scientist warning on affluence for instance points out that you need lifestyle changes. And, of course, Greta Thunberg is out there saying we might be too late.

So, the question is, are any of the plans that you're seeing ambitious enough and politically viable to be able to really create the kind of sustained expansion that we need?

Storm: Yeah, there are a ton of wonderful plans out there. The problem is that they're plans and plans don't change anything. Plans are documents. You know, they get some publicity when they're first created but very seldom do they ever actually change anything, because documents don't change things processes change things. Hey, I warned you.

The only way you're going to change society or economy, or make the kinds of physical changes to undo the damage we've done to the world, is through an ongoing process. There is no way to do that on a project-by-project basis. And it's okay to have a plan, but if you think the plan is going to save us you might as well hang it up now. You've got to have processes at every level, and ideally, if all these processes at the community, the county, the state, the regional level, the national level, if they're all

based on the same kind of framework and taxonomy, concepts, and principles, then that increases their ability to harmonize with each other and integrate with each other so that a successful community revitalization process can expand into a county, and a region, or state, or whatever. It's got to be process focused.

And there's certain things that can only be addressed at the global level; certain things can only be addressed to the national level, so I think the key is going to be to get a few communities out there with a complete process, and ideally you know an entire region or a state, with an actual process that can act as the testing ground, you know the model that other people can point to. Because until you get a successful model out there that people can point to, it's all just words it's all just concepts that make people's eyes glaze over. but as soon as they can point and say, "Wow, look at Vermont. They've got a regenerative agriculture program, they're renewing their infrastructure, they're cleaning up their brown fields, and covering them with solar panels. And you know, they're revitalizing their communities and they've got an organized program in each community, they've got an organized program at the state level, and one for each of the counties. You look at that and say, wow, you know they're organized. They actually have a strategy; they've got a process for delivering this strategy. You know we could do that, there's nothing hard about it."

Yeah, nothing I've said in this presentation requires a whole lot of brain power to understand. It's pretty simple stuff.

SolarFest: Well it's interesting; you just touched on two…I'll bring two questions together that have been brought forward. The first was what role can Vermont play in helping to drive the global ecosystem restoration movement? And another one: given bioregionalism, local communities, and local leadership, is there a place for a state like Vermont to become a living laboratory, an institute if you will, for more than just a pilot program?

Storm: Yeah, I've been trying to find a place that could serve as that living laboratory for, well pretty much ever since that first book came out. I was called down to New Orleans four times after Katrina came through, to help them to recover. And one of the things I was telling them was you've got a golden opportunity here to become a living laboratory of catastrophe recovery; ecological restoration, economic revitalization. Take advantage of everything that you're going to be doing, and set up: get university partnerships so that you're really learning from this, so that other people can replicate your success. Because a lot of places that are successful didn't document anything along the way, you come to them five years later and say, "How'd you do this?" and then you just hear, "Well actually I'm not sure."

When in my second book, the McGraw-Hill book, I did a case study on Chattanooga, which was a city that went from just the armpit of North America to a revitalization poster child in a relatively short period of time. And when the book came out and people in Chattanooga read that case study they said, "Wow, you know for the first time I actually understand how we did that," and I'm talking about the people who actually did it.

Well, just to finish up on that, so I've been looking for this potential living laboratory for a while now, and there have been a number of folks who have raised their hands and say, "Yeah, we can do it." And in some places, like New Orleans, it didn't get done because they had no leadership. You know, one of the talks I did down there was in the City Council Chambers. first question I asked was how many elected representatives do we have in this room? Not a single hand went up. You know, the leadership was totally absent after Katrina. At every level.

And at one point I was working with the Governor of Montana, and he put together a Montana restoration economy initiative. Three years later we published a report showing the return on investment from this program that was restoring their watersheds and cleaning up their old mining lands and all that. But the problem was he was a Democratic Governor in a Republican state, and he knew we didn't have long to live, so that really couldn't continue.

Every place I've talked to so far has either been too small or too large. Vermont strikes me as being in that Goldilocks, just right situation: you know, large enough you've got a critical mass of economic opportunities and population, small enough that you can actually have some control and actually accomplish something. And in a discreet enough area that it can actually be measured effectively.

SolarFest: Well that's hopeful. The two other questions that came in were really about the transitions. How do we get big business to see things differently -- how do we get the thinking there to change? And what are the most effective ways to get us all thinking about the big picture and acting accordingly?

Storm: Well, it's obvious that videos, and social media, and books, and talks, and conferences aren't cutting it, because we've been getting the message out by all those means and not a whole lot has changed. And even the progress we have made has been nowhere near fast enough to stave off disaster. So it really gets down to getting people involved. And people really aren't going to get involved at the national level or international level. People are going to get involved at the local level. So that's where you need that replicable process, so that when people get involved in a project or a program at the local level and they see the difference it makes, and they see how the process works. They can move up and say, "Well you know, we need to do this on a larger scale. I think I'll get elected to the county board and see if we can just do this at the county level, or the state level, or move up to nationals."

So again, it gets down to process. If people understand the process of bringing a place back to life, they can apply it anywhere. If you don't understand the process, you can't apply it anywhere.

SolarFest: Going from the large to the smaller is really a question, I guess, about resources, and where to find information. One question was: How much energy in Vermont is currently supplied by solar energy? so I looked, and depending on who you believe, it's somewhere between one and a half and 11percent.

Another question came in and, thank you Mary from Kenya, because they're looking to overcome a trash problem; looking at possibly creating an incinerator at a high enough temperature to be able to get rid of the trash without harming the water. Again, these are very granular, locally specific questions. But where are the sources of information? Where can we find places like that, other than places like Bennington College and Beyond Plastics, and solution to Mary's question?

Storm: Yeah, I mean, those are all different challenges, but they're pretty much shared all over the world. Virtually every place has a trash problem, every place has an energy problem, so it's fairly generic. The big challenge here is that they're all searching for resources. They're all looking for stakeholder engagement. Yeah, they're all reinventing the wheel every time.

People launch one of these wonderful projects whether it's to clean up a beach, or protect sea turtle egg nests, or you know renovate a park, or whatever it might be. They have to reinvent the wheel; they have to get that stakeholder engagement going all over again.

That's the magic of the process. If you've got that ongoing program locally, that's revitalizing the place, all you have to do is walk into the people running that program and say here's what we need to do, and they can tap into the ready-made stakeholder engagement, the ready-made policy support, ready-made engagement of their political leaders. You know, there's so much wasted from all this real reinvention, just from lack of process.

SolarFest: So here's a moderator privilege question. I was an elected official during Hurricane Sandy on Long Island. And the question was, at what point do we retreat from coastal communities, and not throw good money after bad? New Orleans had to deal with that question and they didn't, I don't believe. Right now, Jeff Goodell who wrote The Water Will Come, said this week that there are no bold measures that will stop large parts of South Florida from going underwater by 2067…not walls, not zero emissions. So, the question is, how do we, in this country, -- pacific nations are already facing this problem and addressing it -- but how do we see a strategic future and make those kinds of hard calls?

Storm: It puts me in a difficult position, because here I am running around telling everybody that the key to a better future, the key to retracting all the things they need to revitalize, is to inspire confidence in their future. And an awful lot of the places I talk to are on the coast. You know, most of our economy is on the coasts. And the fact is, I mean just in the last couple of weeks, the U.S. Army Corps of Engineers rolled out their plans you know for Miami, for Charleston, for a bunch of places up and down the Atlantic coast, and they all involve building huge walls. And a lot of these places are dependent upon tourists, who are attracted by the fact that they've got this beautiful waterfront. And so, hiding behind a huge wall is not something that most of these communities find very attractive. They also don't find drowning attractive. So, they're being put in a tough spot.

And, you find this weird part of the resilience movement is all these industries that are popping up, for instance, technologies that will raise houses: technologies that you can build into new houses, where you could basically just push a button and raise the house a foot, you know, through hydraulic pumps in your foundation. All kinds of ways that you can adapt and make a place more resilient like that, but at some point, we have to face the reality that they're really…

I mean, yes, if you got all the world leaders, corporate leaders, together to agree overnight, to go into carbon negative mode, when we could suck a huge amount of carbon out of the atmosphere in a very short period of time. But that's unlikely to happen. So, we have to assume that sea level rise is going to continue for the foreseeable next few decades at the very least, and it's going to be catastrophic for the coastal areas. So, for those…

I actually had a similar story that goes back 300 years in my first book. The restoration economy had a story about Lisbon, Portugal which was hit by a tidal wave three centuries ago, that basically wiped out the city, because the whole city was built in a linear way along their shoreline.

So, the 1st Marquis of Pombal came in, who's considered kind of the world's first urban planner, and redesigned Lisbon to go up the hill. And Lisbon is now one of the most beautiful and resilient cities on the face of the planet. And his design was absolutely gorgeous.

it was very painful at the time, because they basically had to undo all that previous planning that was right on the waterfront. So, there's going to be a lot of pain involved either way. Really the only choice we have: do we suffer the kind of pain that gets us to the solution, or do we just suffer pain for the rest of existence. That seems to be an easy choice.

SolarFest: Okay, so to end on a more positive note, for Vermont to take those next steps forward, to become that shining example in the northeast, what you talked about: vision, strategy, planning, process…what would you suggest as a starting point?

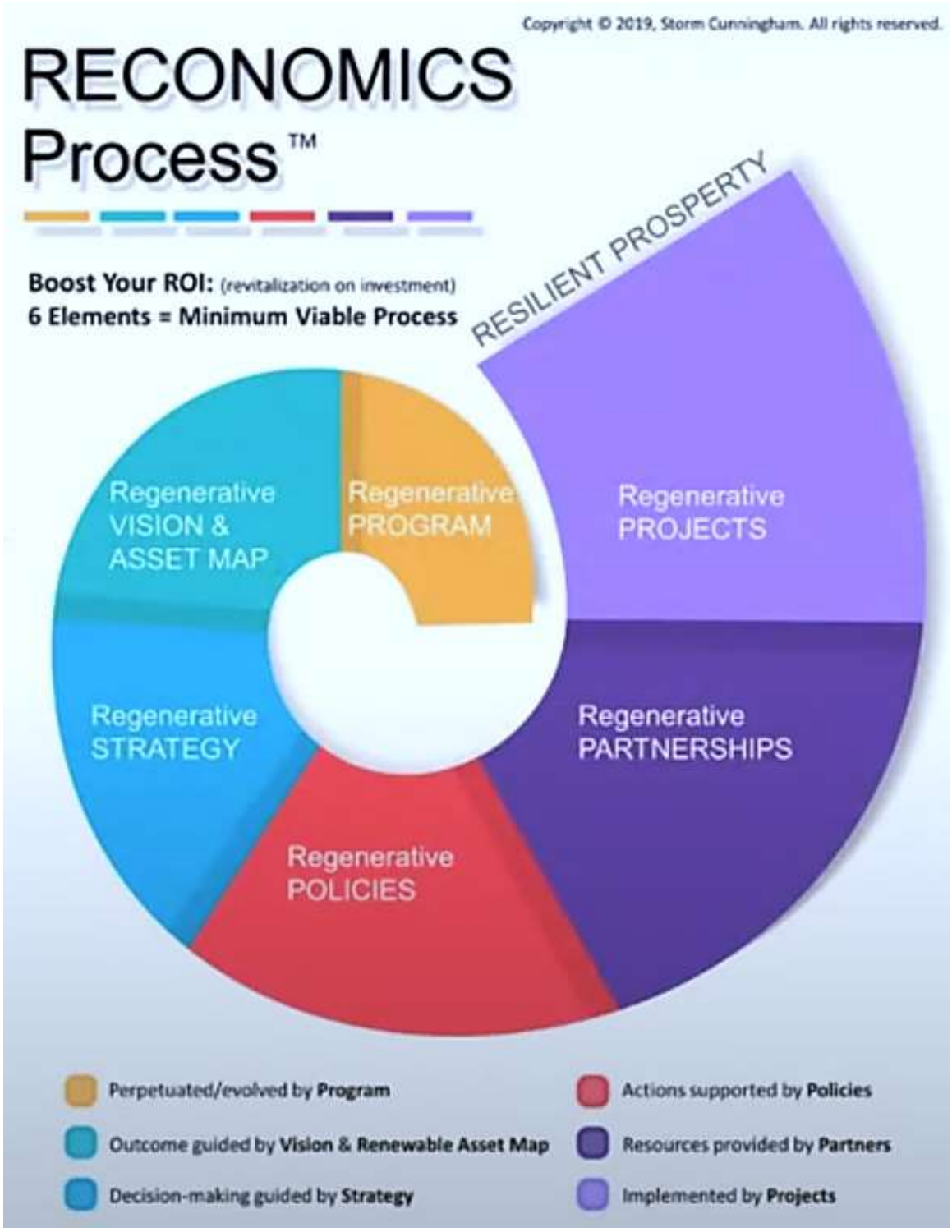
Storm: Well really, the core around which all of that revolves is the program. The ongoing program. You get that going and you can start adding the other elements: the visioning process, the strategy, the partnerships, the policy work; all that sort of stuff can be added on to it, but you really got to get that flywheel moving, even if just slowly in the beginning.

So, I would say, the first one is to come up with a credible, trusted organization; either non-profit, or academic, or both, that could host that ongoing program. The next step would be to decide, you know, what's the scope of that program: as a community, or county, or regional, or statewide, or whatever.

And you know, determining that scope is going to be based on what's achievable: what can work, at what scope, can produce inspiring results on a reasonable timeline. That will encourage others to go forth and do likewise.

SolarFest: Well, not seeing any other questions, on behalf of SolarFest and CAPA at Bennington College, and all of us, thank you for very helpful and inspiring, in a very brief time, to open up a world for us. Thank you very much.

Storm: Yeah, thank you Mike, thanks for organizing this, Susan and everybody else who is involved. And I look forward very much to meeting all in person.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