

Transcript of Frontiers of Commoning Podcast, Episode #31

Interview with Greg Watson Director of Policy and Systems Design Schumacher Center for a New Economics October 1, 2022

Opening quotation excerpt from podcast:

Greg Watson: [00:00] The biggest challenge of the renewable energy solution is the variability. That overlapped into energy security, right? How are we going to be secure if we're a hundred percent renewables? And that's why the discussion of the cross-border integration, the World Grid, comes into play because sharing, trading energy is key to coming up with a secure strategy for renewable energy. Because at night, when there's no demand, it can now actually be traded to a neighboring country that needs it on the spot. That means less resources are needed for storage.

Announcer: This is *Frontiers of Commoning*, with David Bollier.

David Bollier: My guest today is Greg Watson, a pioneering thinker and doer focused on developing new forms of global cooperation. His latest, most ambitious project is a campaign to [01:00] develop a World Grid, a globally integrated system for the free flow of electricity across national boundaries. The idea is to greatly reduce carbon emissions, spur renewable energy, and make energy systems everywhere more efficient and resilient. To understand this visionary project, we'll first explore the backstory to this fascinating quest. It starts with Watson's experiences in the 1970s and 80s with Buckminster Fuller, the legendary architect and systems theorist who first proposed a World Grid.

Bucky also came up with the idea of the so-called World Game, a process to help people and nations think holistically about global problems and ways to cooperatively solve them. These ideas also have the roots of the New Alchemy Institute on Cape Cod. For 20 years until 1991, the Institute was a hotbed of bold eco-experimentation and systems thinking, “a new age Mecca” as the *New York Times Magazine* called it. It was a testing ground for organic agriculture, sail-wing windmills, solar algae pond stocked [02:00] with fish, and, of course, geodesic domes.

Watson was education director and then executive director at the New Alchemy Institute in the 1980s. Since then, he's been deeply involved with sustainable agriculture, renewable energy, and community development – as Massachusetts Commissioner of Agriculture under three governors; as the first director of the Massachusetts Renewable Energy Trust, which develops offshore wind energy; and as the head of the Dudley Street Neighborhood Initiative, a grassroots community land trust that converted 1,300 abandoned lots in Roxbury, Massachusetts into a healthy, affordable neighborhood. I'm also pleased to say that Greg is my colleague at the Schumacher Center for a New Economics.

Welcome Greg.

Watson: Thank you, David. It's a pleasure to be here. I appreciate the opportunity.

Bollier: Let's start with a brief description of the envisioned World Grid, and we'll get into more of its details later.

Watson: The World Grid was a concept that Bucky Fuller developed in the early 1970s. He had an opportunity to present it to Leonid Brezhnev, [03:00] via Pierre Trudeau, as Trudeau was premier of Canada was going to visit Russia.

The idea was that if we could interconnect all the countries of the world with an electric grid, we would be able to support 100% renewable energy. He felt that one of the drawbacks of renewable energy was its variability and its intermittency. The wind doesn't always blow in one spot, and the sun isn't always shining. But if you could connect across geographies and across time zones, he realized, we could address that issue, and that technology was getting to the point where that could be both technically feasible and economically viable.

Bollier: But it sounds like a massive cooperation nightmare, however. I would imagine that's one of the issues that had to be resolved, and has to be resolved.

Watson: It's a logistical nightmare. But in Bucky's vision of the World Grid, which actually grew out of the concept of the World Game, which was a concept that he developed that says, [04:00] “What if we were in charge of the world? Not the military, not governments, but what if you and I had the ability to rule the world and make it work for 100% of humanity without compromising ecological integrity?”

His question was: What will we need to know? What information would we need to know to make that work? He felt that if we had the right information, about human trends and needs, about resources, about technology, that it would spur spontaneous cooperation.

I know that sounds a little outrageous – spontaneous cooperation around the world – but here's the thing: What we are discovering now in 2022 is that there are examples of spontaneous cooperation among countries who are integrating their electric grids across borders, in many cases, without the direction of any particular government. They're doing it because it [05:00] makes sense as they're trying to address the existential threat of climate change.

Bollier: So it's already happening, even though it's not happening at a global scale yet. It's happening in pieces and patches.

Watson: It's happening in pieces and patches. And I'm not sure that it meant some of the countries are even aware of the concept of World Grid – if you know what I mean. They're doing it out of necessity and out of practicality to understand, “Wow, this really does work.”

Two countries in particular, Russia and India, are actively promoting this concept of the world grid. And [there are] still some issues that need to be overcome. But I would say, yes, I think they're doing it, and I think, spontaneously, some of them are being initiated by the private sector, some are being initiated by government, and some are being private-public partnerships. So it's taking all sorts of forms, and it's happening regionally. So almost in the form of what some people would call "regional super grids" that do lend themselves at some point to be connected into the [06:00] World Grid, or "the global energy interconnection" as it's called in China.

Bollier: Talk to me briefly about how this relates to climate change, how it would, what sort of impact it would have, and why it's important for it.

Watson: If we take a step back and look at sort of the major effort to address climate change, at least one of them, is clearly is the Paris agreement, the International Panel on Climate Change, and they've pretty much have left it up to individual countries to determine how they're going to meet greenhouse gas emission goals, right? We know that the greenhouse gas emissions are what's contributing to climate change.

And so they pretty much just have said, "Let's let every country determine how it's going to meet the goals and then set them on their way." Interestingly enough, one country that actually took it upon itself said, "We're going to do this"...Netherland said, "okay, we're going to commit ourselves, we're going to make this work." And they started to undertake an effort to build the necessary number of wind turbines and solar panels. And they hit a roadblock and a roadblock and [they said], "We don't know that there [07:00] are enough metals and minerals available for us to do this right now." And if you step back from that, you realize, that if every country tries to do this on their own, we will probably have to mine an unacceptable amount of metals and minerals. We wouldn't be able to achieve the certain types of synergy that could be realized if we cooperated. So this notion of addressing climate change in a meaningful way, in a sustainable way, really does suggest we've got to cooperate.

Bollier: Well there's some uncanny resemblances to biological phenomena. You mentioned spontaneous cooperation, but we see in biology autopoiesis where different entities come together and create something new almost spontaneously. And we also see how there's this evolutionary emergence in the struggle to be symbiotic, to both be cooperative and competitive. Maybe you could talk a bit about some of these parallels and maybe if you think they're germane to this discussion of the World Grid. [08:00]

Watson: I think absolutely. Going back to the World Grid and/or the World Game. Fuller looked at the earth as a whole system. And he says, you know, the earth is regenerative. It's been alive if you take the Gaia hypothesis for over 4 billion years. It hasn't grown in size, but it's redeveloped, it's recirculated, it's recycled materials.

And one of the reasons for its sustainability and its resilience is that there is a free, unfettered flow of resources and energy. Well, there has been over the years, and we've done a lot to block that. Bucky saw the nation-state boundaries as...he called them blood clots. They prevented the

unfettered flow of energy and resources that would, in fact, allow for this autopoiesis and for spontaneous cooperation to take place.

So the idea was that nation-states restrict, physically they do, but also in our minds, we can't see beyond those borders, and so we don't recognize what's possible. So the idea, the [09:00] game and the World Grid exercises, is to say that we still have to obey the laws of physics and biology, but we can tinker with the policies and [politics] and the arbitrary boundaries that we've set before ourselves and see what would happen, what would be possible.

I sort of look at it as both being an optimist, but I actually like to the term 'optionist'. Let's explore all the options that are available to us, and then recognize that we are going to have to deal with some of the political pushback on some of them.

Bollier: So this is a fascinating idea that climate change and our need for electricity might be challenging some of the historic ideas of the nation-state and transforming it into a more transnational cooperative endeavor.

Watson: I don't think... honestly, David, I don't think there's any question. I think it's becoming clearer and clearer that the only way that we can really support 100% renewables [10:00] and 100% renewable/clean. I'm going to say "slash" /clean because I think there's a little bit of wiggle room in there. But you can't see a path to doing that unless we allow ourselves to cross those borders and cooperate and see this almost as a catalyst for unifying and breaking down the national boundaries.

Bollier: So in some ways we have to reinvent a new framework for being more hospitable to cooperation and transnational ways. I know how biologist Lynn Margulis says that, "Humans create their own context." And maybe that's our challenge is to create a new context to allow this all to happen.

Watson: And can I say too, it's sort of interesting. I did listen in on a webinar and there still are some holdouts, even in acknowledging the need for this. Some of the traditional market-based folks, they don't use the term cross-border or they don't use cooperation, integration. They say, "We need to expand the market." There's some resistance.

Bollier: Well, in other words, they have to cling to free market ideology and not recognize [11:00] that markets have always needed cooperation, mostly among governments and policy, to allow markets to work in the first place.

Watson: Absolutely right. I don't see that too much as resistance physically, but resistance sort of ideologically and conceptually.

Bollier: Is that an important resistance or is that a tolerable euphemism for them?

Watson: I think it's tolerable for now. What I think is if they're willing to accept the fact that we are going to be doing this cross-border, it's happening, say, within countries regionally. So we're...the United States is for instance...recognizing they've now mapped, I think it's the Brattle Group, has mapped the different regions based on their renewable energy capacity and resources and suggests we've got to now interconnect.

The reason Texas is having all of its problems is that it's its own region with regard to electricity and its grid. And it's unwilling to trade or buy from surrounding regions because [12:00] they don't want to fall under anyone else's regulation.

And that is one of the issues that did come up in a lot of discussions is, "What are countries or regions giving up?" Some of them fear that they're giving up some degree of autonomy, and there's a little bit of pushback on that.

Bollier: Well, let's circle back to the very idea of systems thinking and the ideas that Buckminster Fuller pioneered to get a better sense of the principles we're playing with and the insights that are important to thinking about the World Grid.

Watson: That would take us to Bucky's *magnum opus*, which is *Synergetics*, which is a look at nature's coordinate system. That's basically what Fuller was out to discover. How does nature use energy, optimize life support by the process, what he called "doing more with less"?

And what he realized early on was that nature is operating in a different coordinate system than we as humans in civilization. We are fixated on sort of this orthogonal XYZ coordinate [13:00] system. We build, and it's more focused on quantity than quality. Nature's coordinate system, Bucky said, is based on 60-degree coordination, which opens up...it's just a very different way. That 30 degrees creates a whole different way of seeing and operating in the world. It's more spherical, and it's more based on relationships and quality than it is on quantity. He talks about angle and relationships between the parts and its geometric objects and geometry and angles are independent of size.

You're looking at sort of the structure and that structure is sort of dimensionalist in terms of how it can operate. So he understood that if we looked at how nature operates and how nature actually builds, there is a concept...it's probably the most important concept in *Synergetics*, and you can probably tell from the title is synergy that wholes in many cases are, are unpredicted by the looking at its parts in isolation. [14:00] But if you understand systems and understand that if we combine the different components that we're working with in an informed way, we literally can create wholes that are greater than the sum of its parts, that we couldn't understand if we started with the parts and didn't see the relationship.

And just a real quick example that he used often is that there's nothing in the properties in oxygen, in hydrogen that give you any clue that if you put them together in the right proportions, two parts hydrogen and one part oxygen that you get water. Water is totally unpredicted by looking at the parts in isolation.

Bollier: So it sounds like this is sort of an indirect, or maybe it's a direct indictment of the Enlightenment in terms of the separation of humanity from nature, the separation of mind from matter and those other kinds of separations for a richer, more dynamic and holistic perspective on what life is all about.

Watson: Absolutely. Bucky's quest reminds me a lot of *The Dawn of Everything* [by David Graeber and David Wengrow], [15:00] where they're re-questioning a lot of assumptions that we make about civilization, governance, how early and indigenous communities actually were governed and creatively and, and in an evolving sort of way.

Bucky, in *Synergetics* called to question the science and mathematics that we've come to assume underlies reality. And so he challenged that and he did it in a sort of a general way, but he even started by saying that early on, when we scribed and drew objects, say, on the ground, we did assume and had to assume that the earth was flat because we didn't have...our impact wasn't global. So when you're very local, then on the sphere, it can appear to be flat. So all the angles are right angles and all...But then as he started to explore a more global perspective, he realized [that] we've got to accept the fact that we live on the sphere and how we operate has got to reflect...our language needs to inform and have us understand, operationally, how we operate differently if we assume [16:00] that we're on a sphere or a flat plane. We commonly use terms like “up” and “down,” but if we're on a sphere, it doesn't really make sense. We can get away with it in our local actions here. But if you have to operate, say, as a pilot, you realize that the directions that you have to adhere to are “in, out, and around”. You go out for flight. You come in for landing, or you go around, you can't talk about up or down because it doesn't...it's meaningless.

He thought that if we could start to talk more in ways that suggest that we are living on a sphere, it would help us sort of operationally in terms of understanding how the systems really do work.

Bollier: Explain a little bit more about how Buckminster Fuller's ideas have propagated over the past fifty years. He's associated, of course, with the effervescence of ideas in the 1970s and *The Whole Earth Catalog*. But, you know, some people would say the geodesic dome is kind of a quaint artifact from another era. How much have his systems design ideas [17:00] infiltrated and become normative in other circles?

Watson: I'll begin by saying that Fuller felt that he needed to, in some cases, design at the extremes, not that this was what's going to be used, but here's what is possible. The domes are still pretty operational when you think about the arctic radar, military certainly uses them. And the concept, not necessarily having it configure entirely to a spherical dome, but think about why he did that.

What he wanted to do...and the dome was his first approach at trying to address a housing issue. From a system's perspective, he said the problem with housing is that we use a lot more materials than we need to in, in terms of enclosing and securing people. The sphere encloses the maximum amount of volume using the least amount of material to do it.

So it was a demonstration of what we need to do in terms of at least addressing this issue. How can we actually do more using less [18:00] materials? If you take a look at an application, not direct application, but structural, the structural design, the structural strength and integrity. He would often say that they're still incorporated.

If you ask someone, “Why do we still build homes in hurricane prone areas that fall down and collapse all the time?” Fuller's response to that was: We do know how to build hurricane proof homes – and this is going to get to capitalism and greed and whole bit – because he said, we know how to do that. If we didn't know how to do that, we couldn't fly in the 747 airline. That cabin can withstand winds that are much stronger than hurricanes. Because his ideas are extreme, and probably to a certain extent not as appetizing, not as appealing to capitalists, this idea of endurance, this idea of building resilient systems is certainly not the capitalist's major goal.

Bollier: So in some ways he was trying to get a demonstration of human civilizational design that was synergistic or compatible with ecological design.

Watson: Yeah. And some of his discoveries have [19:00] applications that are still sort of invisible to most of us. The acknowledgement that the carbon 60 molecule, which is the strongest right molecule and people are using it now in terms of structure, the common name for the carbon 60 molecule is a Bucky Ball. Because it actually does adhere to the principles and properties that he knew that related geometry to the structural integrity of materials. Tensegrity. Tensegrity is a concept that emphasizes tension over compression. So you have more wires as opposed to solid struts. Tensegrity structures have, you know, tensile bridges. And not that that alone was his concept, but I do think the results of his thinking and his work are still pretty invisible to most folks.

Bollier: I think it's also true that a lot of the ideas that were flourishing in the Seventies were essentially shut down or went underground for the past forty years as neoliberal capitalism came to just dominate things and shut down that experimentation.

But I think given, for example, the recent biography of him that just came out [*Inventor of the Future*, by Alec Nevala-Lee] [20:00] and a number of other ideas from the Seventies that are having a resurgence. The scholarship that's going on, trying to excavate what happened in the Seventies, suggests there might be a resurgence or a re-discovery of how relevant his ideas actually were.

Watson: And keep in mind that his goal was...He felt that he needed to develop the artifacts so that people wouldn't say, I think as some...one of the critiques in the new biography, that he wrote a lot, but didn't do anything. And so the Dymaxion car never sort of...

Bollier: What's a Dymaxion car?

Watson: During the Depression, he developed a car that could seat, I think, up to eight people, got, I don't know, 80 miles per gallon. But it had three wheels. It had one wheel in the back, and

it could pivot, and it got great mileage. It was sort of the forerunner of today's minivan, but he developed it during the Depression. But it was not quite stable, but he wanted to demonstrate certain principles.

The same thing with the Dymaxion house that was sort of on a pole. It was a self-contained structure that used fog and mist for showers [21:00] and recycled all. He was working at the extreme edges of architecture. And some architects claim that he actually contributed more to architecture than any other single individual in terms of pushing the envelope. *Synergetics* was about using, and quoting Bucky, “helping teach people how to think, not what to think.”

And so the idea was this process of looking at whole systems, this process of understanding how you need to discover the relationship, the parts of the whole was really sort of his lasting legacy. I don't think that there's any way that I would've been able to pursue what I've done in areas that we mentioned – agriculture, renewable energy, community development – had it not been for that ability to think in terms of patterns and be able to understand, because of that way of thinking, what the relational issues were and who needed to be brought to the table in order to address those problems.

Bollier: Well, let's talk a little bit [22:00] about, you might say, the institutional embodiment of that – the New Alchemy Institute and how it tried to maybe not directly or slavishly develop a lot of those ideas, but was very much into eco-experimentation and systems thinking in developing new ways of engaging with the earth and agriculture.

Watson: Well, it was all about systems thinking. And it grew out of the seventies and the co-founders John Todd, Nancy Todd, and Bill McLarney were watching all the Earth Day demonstration and really supported that. But what they observed was that everyone was focusing on what was wrong with the existing system. You know, whether it was chemically based agriculture, fossil fuel-based energy systems. And they just thought, “Let's go and try to figure out how we develop alternatives.” They did incorporate part of Bucky's philosophy, which was “Dare to be naive.”

So when you look at the first, what they call bioshelters, these structures that incorporated solar architecture, agriculture, aquaculture into one system, they realized [23:00] that, just from looking at whole systems, water plays an important role, you know, it stores heat, it release heat. That's why deserts have that up and down sort of deal. So let's use water inside of our bioshelters, [such as a] geodesic dome. But nature doesn't just do one thing. Nature has systems where the byproducts of one become the inputs of another system. So that pollution doesn't literally exist in nature because nature sort of has these co-dependencies.

So the New Alchemist said, let's take the water out of the, the ground, and of a pond, put 'em in tanks, raise fish, and then use fish as a source of protein, and then use the fish waste to fertilize hydroponically grown.... So they created these circular systems. And they were all based on this very sophisticated and elegant, but also naive approach to design.

Bollier: It strikes me from my readings about the New Alchemy Institute that it was trying to, to do R and D for this new age, you might say. But did it have an impact in, for example, pioneering new commercial [24:00] applications, or changing the way designers of homes, of appliances, of agricultural equipment, how they did their work?

Watson: I would say that the biggest impact, because I think New Alchemy and Rodale [the Rodale Institute, a pioneer in organic farming in the 1970s] have almost...were going down parallel paths. I don't know that if before New Alchemy people were bold enough to say that you can grow enough food on a 10th of an acre of land to feed thirteen people three vegetable portions a day without chemical fertilizers, pesticides, or herbicides. But your substitute for that has got to be labor and time. I mean, they were clear about what would have to be the substitutes for that.

The solar architecture on Cape Code, on our 12 acres on Falmouth, we called the structure 'The Cape Cod Ark.' That was going to be maybe the thing that we were going to need to get out of here. Prince Edward Island built similar structures.

And, by the way, when you look at now the explosion of vertical farms, whether you believe in them or not, but even if you look at the concept of aquaponics that has become now a second nature. When we did it at [25:00] New Alchemy, there was no name for it. We just said we're integrating hydroponics and agriculture into one system. But that now has become a standard in terms of how we may have to rely a lot more on growing food in controlled systems as the climate and weather become increasingly unpredictable.

Bollier: New Alchemy seems like such a singular operation. How was it funded? Why did it go under? Why don't we have something like that today?

Watson: Our funding came from a variety of sources, from Rockefeller to Jessie Smith Noyes, and others. We also got funding from the National Science Foundation. They were very interested in the circular systems within the Ark. And NASA visited New Alchemy to say, "How can this work?"

The biggest drawback of the systems that were designed at New Alchemy was that they used water and water is very heavy. And so for space, it didn't make sense, but for other types of applications, it was there. So [26:00] people saw the New Alchemists for what they were: practical visionaries. And so they said we're going to support because you're planning for the future.

Why did it go under? And it's sort of interesting. That question was posed to Bucky himself when Bucky visited New Alchemy in 1983, I think 83, right before his death. Because at that point funding wasn't coming and they said, "So Bucky, what do you say?" And Bucky did admit it, he said that, "Well, I never got a grant in my life. I just tried to, you know, I raised money because people supported and did this," but then he looked at us and said "you may have

outlived your usefulness in this site. You may need to emerge from the womb of New Alchemy and take this into the world.”

For me, after my first three years as education director, people were shocked when I said I'm accepting a position in state government. “What?” – it was the Office of Economic Affairs.

And they said “Why?” And I said, well, I think what's going on here is incredibly important. And I appreciate when people come to visit us and applaud what we're doing, but week after week, we're preaching to the converted. [27:00] And that's good because you do want people to pick it up and then take it up. But the challenge now is “Can this be transferred, could I convince people in the Office of Economic Affairs that this is feasible and economically viable?”

Now, some of us, the economic viability part was still needed to be proven. People like Gary Hirshberg, for instance, who was the executive director of New Alchemy when I arrived, went off and founded Stonyfield yogurt.

For him, it wasn't just the yogurt, it was the entire system. It was how the farmers were treated, how the cows were fed and pasteurized. So all that whole bit.

So I think that Bucky was probably right. We kind of did, given what we were about, at the end of the line of what we could do on twelve acres in Hatchville, Massachusetts.

Bollier: Well, one could argue that they're not mutually exclusive doing that in new iterations, in the outreach and application and implementation. They both need to be done. Are there analogs today doing that kind of deep think?

Watson: Yeah, no, it's interesting. Some [28:00] people are suggesting it's time to do the 21st century version of a New Alchemy. Maybe not do New Alchemy Institute. But we need the places where not only are you doing the research and demonstration, but open to the public so people can come and see it. I mean, that was the whole thing too. Remember this grew out of the Whole Earth Catalog, it was certainly influenced by that. And the idea there were tools for individuals, households, communities. It was the E.F. Schumacher you know, it was appropriate technology, technology as if people mattered.

Bollier: Is there a straight line to be drawn between what the New Alchemy Institute and Buckminster Fuller was exploring, and regenerative economy and circular economy ideas today? Or are they different in some deeper, philosophical way?

Watson: I'm going to put my Bucky hat on. Bucky didn't believe in straight lines. He believed that, you know, in the curved world that there...he believed that there are trajectories. I'm going to say what I think is that it's not a straight line, but it's a, what he would call, and I would call, a processional impact [29:00] when bodies in motion, and in the way that the another system's dynamic is that nature has to program organisms with drives to perform the greater good.

And so bees are driven by the need to gather the nectar. They don't know that they're pollinating, but that is the byproduct of that drive, and that's the greater good. And basically what he said is that procession, you can't just do one thing, it's impossible to do one thing in a world that's interconnected in a world where everything is moving.

The real answer to your question is these were unconscious outgrowths, not direct lines, but they were no less important. And I think that they grew out of that. So I think one of the things that we got to get a little better at, though, is doing a lot more conscious design so that we can develop these plural benefits.

Bollier: That's a great response in the sense that I've been so keenly aware of myself, that the indirect effects are often as consequential over time as the direct ones. So yes, let's be [30:00] conscious, but let's not be so arrogant to think that that's the only thing that matters. I know that all sorts of indirect effects come back, lurk, and then present themselves as a solution or as a synergistic positive development.

Watson: Or worse though, with the non-system perspective, those are what we call sort of the unintended consequences. In many cases, we're not aware that if we put a little bit more thought in the processional effects, we can actually create greater degrees of synergy.

Bollier: It's a great conversation I'd like to have with more philanthropies who seem to say, "Give us your blueprint" and they don't really care about the processional effects.

Watson: You're right, David. And not only that, but, and in the beginning when you're doing the work, to be honest, we don't know what they're going to be. That's the idea of the blueprint, right? You're gonna lay it all out and you have to say, "We're not quite sure." But from New Alchemy to a place like the Dudley Street Neighborhood Initiative.

Bollier: Briefly explain the Dudley Street Initiative so that newcomers could understand that.

Watson: [31:00] Dudley Street neighborhood is a community in the greater Boston area. It's almost right in the heart of Boston, closer to the airport, closer to one major thoroughfares. And it at one point in the Forties and Fifties, it was a thriving middle class community, primarily Jewish. Over the years, it became a multicultural community, a lot of low-income immigrants from Cape Verde, African Americans from the South, Latinos and white, all poor, became sort of the dominant population. Slum lords, and speculators understood in the beginning in the Sixties, Fifties, "Oh, this place has location, location, location. This is prime real estate. We are going to capitalize on this." And so as the community started to become poorer, the slum lords, and they were slum lords, basically let their buildings deteriorate and were just kind of waiting for a plan. And a plan did emerge.

The City of Boston came up with a plan to build marinas. [32:00] Urban renewal, urban renewal program. And back in those days, urban renewal, as I think maybe it was James Baldwin or somebody, means Negro removal. We're gone. The interesting thing wasn't that this plan was put

forward; it was right in the midst of the tumultuous period in Boston with court-ordered busing for desegregation. So the racial tensions were high.

One of the community members and the Dudley community, a single mom named Shea Magine got up and said, “Wait a minute. Um, this plan. I don't see us in this plan. What's going on here?” And they halted... A group of philanthropies came together, foundations, Boston Foundation, Riley Foundation, others, and they put together a fund. They called themselves the Dudley Street Neighborhood Initiative. They were going to come up with a plan. Bob Holmes from the Riley Foundation said, “Wait a minute. You're right. You're right. We're going real fast here. What would you do if we gave you the money instead of us trying to figure this out?” And Shea said, “I can't speak for the entire community, but here's... as a start, [33:00] I think we would wanna hire organizers to canvas the neighborhood and find out what the vision is from the community.”

They did that. This low-income multicultural neighborhood came together. They came up with a plan. They said we don't need experts to help us create the vision, but we do need some experts to help us...how can we realize our plan? The most important part of this is when the neighborhood was successful in halting the redevelopment project, the slum Lords and speculator said, “We got to minimize our losses here,” and they started torching the buildings. They burned them to the ground so they could collect insurance and said that we may not ever get a refund. And that's when the neighborhood was reduced to 1,400 vacant lots. I mean, you could stand in the middle of that neighborhood and do a 360 turn, and it looked like you were in the war zone.

So it was reduced to rubble. And there were some very progressive lawyers, David Abramowitz among them says “You need control of the land. You can't do anything if you don't have control of the land. This is an emergency go to the mayor, go to the City of Boston and tell them you want the [34:00] power of eminent domain over all abandoned, vacant land in your neighborhood.”

The power of eminent domain, which even some neighbors recoiled at that thought, saying, “Wait, whoa, whoa, no, that's the thing that power that, that developers come to use to force us off our property.” And he said, “Yeah, but it's a tool. They chose to use that tool to support their capitalist goals. You can use those tools to perhaps meet your community goals.”

The long and short of it is mayor Ray Flynn and Steven Coyle of the Boston Redevelopment Authority, said, “We're going to give this community the power of eminent domain.” I can't speak for anybody...I think part of that was done, maybe with a thought in mind that when they fail, then we can come back and say, “We gave 'em everything.”

Two things happened. They put the land into a community land trust...

Bollier: Basically taking it off the market and giving it some collective governance, as opposed to letting it be picked off one by one by investors.

Watson: Absolutely. And that collective governance was, David, a thirty-member board of [35:00] directors, elected by the community.

I mean, they campaigned and with representation from the various groups, Latino, African American, Cape Verdean, white, but also community development corporations, private sector, no politicians. I became executive director, and I was there for four years.

It is the most amazing, and I would probably say under-reported example of a community literally raising itself from the ashes, becoming empowered and using the tools that we know can work, but in a situation where it was very dire. It resulted in new homes being built.

The community made its own sacrifices and saying that in order to deter speculation, the value of our homes will be kept below, subprime. We're going to make them not as attractive. And these are for people that, for the most part, I'd say almost a hundred percent, this was their first venture into their wealth building. That's the Dudley Street Neighborhood Initiative. Amazing example.

Bollier: One of the through lines in your [36:00] career, it seems, has been trying to balance economic equity with economic growth and with environmental issues. And you talk about the energy 'tri-lemma' of balancing energy-security, environmental sustainability, and energy equity. So maybe talk a little bit about how you see this playing out, especially the equity dimension.

Watson: Putting this within the context of climate crisis, right? Because that's sort of the driver and everybody's pretty much realizing "Yes, we're in the midst of an energy transition" and that sustainability part has got to be met, for the most part, by renewable energy. The biggest challenge of the renewable energy solution is the variability. That overlapped into energy security, right? How are we going to be secure if we're 100 percent renewables?

And that's why the discussion of the cross-border integration. The World Grid comes into play because sharing, trading energy is key to coming up with a secure strategy for [37:00] renewable energy. Because now you can swap off daytime, nighttime, the wind is blowing or flowing here at night when there's no demand. It can now, because of transmission capability, actually be traded to a neighboring country that needs it on the spot. And by the way, that means less resources are needed for storage.

Bollier: So, in a sense, a lot of the conflicts that otherwise exist between energy security and ecological sustainability and equity, can be solved if you get this larger framework that aligns all those goals together.

Watson: The equity part comes in because if you are capable of connecting on the grid, what happens is the electricity is delivered everywhere at any time. When we do that, then, technically, you will have not only everybody being able to receive the electricity on the spot, at the same time, but also it really is pretty transparent, at the same price. Everybody would know what the price of [38:00] electricity is.

Bollier: Basically you can mutualize the benefits by having a larger pool of participants. And so a lot of those irregularities can be overcome, and you don't have the inequities one country versus another.

Watson: See, that's exactly right, David. But within that scheme, do we want to build microgrids? Or the way that it's designed, if you want to opt out at certain times, you really can do that. You can opt in. So it really is this thinking globally, acting locally...

Bollier: Well, it seems that, you know, a lot of people will say World Grid, "Oh, is that going to be managed by the UN or some mega bureaucracy?" But I think it's maybe worth noting that this is more resembling the internet in its design in terms of having pluralistic, disaggregated, decentralized modules that nonetheless can interact and cooperate in an emergent fashion, as opposed to some top-down dictatorship of how it's all going to go.

Watson: Absolutely right. And in fact, Europe, much of Europe, much of western Europe has operated as a single [39:00] market connected grid since 1951. Their problem is they still depend upon natural gas from Russia, right?

Not only was it single market, and not only is it interconnected, but it's decentralized. I found a report that was issued maybe sometime in mid 2000, they operated without any written rules. Every...what we call the regional transmission operators had to respond to the whole system, but the way that they did it was determined by them.

So that, for instance, if there was a shortfall, they determined where they would have to shave electricity, not some big government, not some operating...and it worked. Now that we're getting inquiries of others that want to join, we finally have to sit down and just write out how it works, not rules, but just how it works.

Bollier: Well, I mean, it's a fascinating parallel with the world of the commons where informality and the lack of explicit clarity is often essential to being flexible, to responding to circumstances, to meeting certain local abnormalities quickly, the [40:00] way pastoral nomads don't have property rules that are guiding where they can graze or where they [can't]. In other words, this kind of fluidity of boundaries is precisely a virtue and not necessarily a deficiency.

Watson: But we still have to be vigilant here because thinking about the World Grid, it could be configured in a different way. It could be configured where someone could in fact say, "Here's this node that puts this particular country or group of countries in an economically advantageous position, in terms of arbitrage, in terms of being able to control this back and forth."

It's not a given that either is going to work. And so one of the things that we're proposing with our world game exercise at the Schumacher Center is that who's monitoring these spontaneous cooperative ventures? I mean...but just tracking to sort of see how are they happening.

Bollier: Maybe this is a good moment to conclude with the world game exercises as a way to address some of these problems.

Let's revisit your earlier description of the world game and how you see this [41:00] assisting the development of the World Grid. How can people come to see both the cooperative possibilities, but also deal with the tensions that will inevitably exist?

Watson: The World Grid we sort of embed within the world game structure. And so the idea is that you're in charge now, the participants, that is, they're in charge. They are still representing sort of the existing, I will say, we think more in terms of regions, as opposed to nations, you can't do it, because it would be cumbersome to do 190 different nations. And this is a game, it's a simulation, right? Where the participants are role playing here, but what's the situation?

And the situation that we're assuming in our game is that an emergency has been declared and this isn't a national emergency, it's a global emergency. And the UN has now been given the powers to mobilize the global economy to address this, just as in war time. When there's a war emergency, the market no longer is in charge. Somebody's got to mobilize. The game is that there have been two emerging strategies [42:00] about dealing with climate. One is the traditional one that says, it's the I.P.C.C. [Intergovernmental Panel on Climate Change], it's the UN, but every country is on its own to determine that. The other is we're looking at a cooperative strategy that is based on creating and building a World Grid and your proposal assumes that you've got the energy war powers to do what you need to do to make that happen.

What is your strategy? How would you address this and what are the differences in terms of the approach and the results? And, for instance, in the World Grid example, one of the potential policy actions could be, we need to create a global resource commons. It is under the aegis of, I won't say committee or council, that's composed of representative countries, but with the former exploited countries on top - that sort of thing.

Bollier: This strikes me as rather notional in the sense that the UN doesn't have these powers, but presumably some sort of body would need to be [43:00] created to be the final arbiter and executive for these kinds of actions. Is that correct?

Watson: That's correct. But the first of the world game is to say, "What could we do?" So the other part, though, is that there is an actual monitoring, as I mentioned before, of what is actually going on "in the real world" in terms of these cooperative strategies, so that it's both a source of inspiration, and also maybe some guidance for folks to be able to see what could happen with this type of cooperation.

And then lastly is to monitor and look at actions that might be taking these activities towards a more centralist and controlling model, as opposed to one that would be distributed, decentralized, and equitable and democratic. The other part of the game is how much of what's going on that's important, that's invisible, can we make visible? And I think that's a really important aspect of the game.

Bollier: And in terms of your own work to help push this forward, tell [44:00] me briefly the next steps for trying to get the World Grid as an attractive, feasible proposition among players in this area.

Watson: We are working towards playing this game on the platform of the largest international energy organization in the world, that brings together all countries and that has among its members, advocates of scenarios that aren't quite in tune...

Bollier: ...as enlightened as ours...

Watson: Thank you...as enlightened. The other is a proposal that's in the works, seeking funding, that would allow us to do ongoing monitoring of the cross-border grid integration efforts around the world. To do it in a way that not just compiles them but that would also allow us to have a blog, to have information, a map where people can visit and see that this is not a pipe dream, it's going to be difficult, but to illustrate the spontaneous generation part of this process and why [45:00] it's happening.

Bollier: I think that simply having a framework, an idea like this can help align thinking, help reorient thinking in ways that expands their imagination and possibilities, instead of simply seeing their own parochial local or regional dimension.

Watson: Right. Not just data, but then the kind of testimonies or at least the discussion about why we did this. This is why we decided that we were going to cooperate. Some of these cooperative ventures are against countries that don't have the best of relationships. And I think there's some richness in terms of what's happening, how it's happening, who's involved, that, I think, just as you said, would be a source of both inspiration and maybe a push and a spark to say, "Whoa, you know, let's, what are our options with regard to this? Or how do we support this? How do we make sure that this doesn't - right? -dissipate because of some pressure from above, whatever?"

Bollier: Well, Greg, I want to thank you for talking with me about the World Grid and the whole history that led [46:00] up to it with Buckminster Fuller and the New Alchemy Institute. And I wish you the best in helping to make the World Grid a reality.

Watson: Well, I appreciate the opportunity to have this discussion. And beware because you're going to be recruited!