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Steve Sacks: I am really excited about Sonoma Mountain Village, it's going to be a very good thing for a little earth day special on the blog.

Geof Syphers: Yes, I am glad you are doing it.

Steve: So let's get right to it. I will provide a little bit of an intro when I do the post, but maybe you can just give me a couple of quick points on your background real quick.

Geof: Sure, I was originally trained in physics and then went into solar energy engineering and landed in the building science industry. I was doing energy efficiency design for buildings when I got out of school for a company called Eley Associates in San Francisco. That was a really good grounding in kind of building science and optimizing systems and trying to balance a lot of complex desires like cost, performance, lightening, cooling and so on. From there I went over to a company at the time it was called Zenergy in Oakland and launched a green building company there within the business, so it was a division of that company and that company was purchased by Kema and I ran that business for about 9 years and that was really exciting because we got to expand on just the building energy side of things really dramatically. We got to start working with owners' buildings on water systems and material choices and construction techniques and day lighting and we were really starting to get into kind of a broad decision making about what furniture they were installing and the whole kind of picture of individual buildings. Right about the time I left there the company was beginning to get into the planning side which moved the point of contact and intervention earlier in time. So that really got exciting because they are now doing a lot of work not just in buildings but also in planning where buildings go and what goes between them and how and why they are constructed. So that starts to get at infrastructure like transit, sewer and water systems and parks and schools and all of the pieces that fit buildings together and make neighborhoods. That is really kind of gets earlier and earlier in time so that you get the buildings right when you finally build them if you got the planning right. I went from there to Coddling and I have been at Coddling now for little over four years and I came here really to help out with certification, the eventual one planet process and also to just to help with the beginning to support the companies' transition to a deep green company. Working on our own internal policies that we're headed in the company.

Steve: You touched on this a little bit at the seminar that I attended, that Coddling was, I don't want to say a typical builder, but he started a while back before people really had sustainable or green consideration. Is this something that only started up for them in the last say five years or so or is this something that they wanted to do for a while?

Geof: Pretty recent. When Brad Baker took over as CEO and Lisa Coddling stepped into the role of COO, which was now almost seven years ago, they really made a decision that this was the direction they wanted to go in. It was their assumption of a leadership role that led to this new direction. So it is recent, it's definitely recent. It has been a good call for us. We're clear that there needs to be a lot of

creative thinking put into the business because we historically, and to this day still, have a lot of retail mall assets and those kind of shopping centers are the kind of places where there's a lot of creative thinking that needs to go into preserving and maintaining those as viable business assets. There are a lot of shopping malls that are not doing very well lately – especially with the downturn in the economy. So we are really seeing the green future and complete neighborhood concept - the idea of having a grocery store and housing and schools and shops and everything in a walking distance neighborhood. We are seeing that as the future of all of our work, no matter what we are and no matter what kind of project we are working on.

Steve: So are there a number of green, and I want to get to the difference that you noted between green and sustainable, but does Codding has a number of green projects that they are currently developing right now?

Geof: We've got a lot of stuff on our board. We've got four projects that we are playing with internally. The only project that is really moving far enough and fast enough that's public is the Sonoma Mountain Village project. But we are certainly very much thinking about what project follows that, and so we are looking at our own properties, And we are looking at other properties as well.

Steve: Ok, I guess just to take a quick step back, you gave a great anecdote about the difference between sustainability and green when you talked about a wrapper that you had for a CD case. I was wondering if you could just kind of give a quick recap of that story.

Geof: Sure. So I have been travelling in Europe and had gone from France where I purchased a CD and our train took us up to Stockholm in Sweden. We got off and I was unwrapping the CD, and I was going to play it. I looked at the waste bin in our hotel, and it had quite clear labels in English that said "food waste" in one compartment, "paper recycling," and "other recyclables." That was it, those were the three options on the bin. I was sort of confused about where to put this plastic wrapper which I knew was not recyclable, and so I called the front desk and she said ... actually she said, "why don't you come up? I want to look at it."

So I went up to the lobby – and I actually did go up, this was one of those hotels where the rooms were below the lobby – and showed the wrapper to her and she said, "where did you get this?"

I said, "well I bought it in France," and she said, "well you will have to take it with you when you go." And I said, "come on!" And she said, "no, we do not have garbage cans."

I said "that can't be right. You can't really have *no* garbage cans." And she said, "really, look around." And she was right in the hotel but she made it sound like nowhere in Sweden and there were not very many. But I did finally find a couple of garbage cans and there certainly were a few. But what I found out later on is that Sweden has a rule that you cannot sell any product in a grocery store or stores that sell clothing and some other type of stores, pharmacies (and there a lot of categories in stores) . . . you cannot sell anything at all if the product or the packaging is not 100% compostable or recyclable.

That is pretty extraordinary because what they have done is they placed a limitation on the kind of product they can import and there are some other restrictions too, like you can't import anything that was made in a country with child labor. [For example] LL Bean can't sell product to Sweden because they use Honduras labor which has child labor in it for example so you cannot have a package sent to you from LL Bean if you are in Sweden.

So there are a lot of interesting things they have done, but on the waste side they have taken a step that is basically made it possible for a zero waste society to happen. They have not guaranteed it and they certainly haven't eliminated the ability of people of making things that you cannot recycle, but they have taken a really giant leap in that direction and it wasn't that hard, except that they have a homogenous society. They've got a society that's generally pretty politically and socially [homogenous] across the board, so it makes it somewhat easier to make those kinds of decisions.

Steve: So that takes us to Sonoma Mountain Village, kind of would be a nice segway. So you are trying to create a little island if you will, up in Sonoma in Rohnert Park that kind of approaches that kind of coconscious, and I'm wondering what was the inspiration for Sonoma Mountain Village to be a complete sustainable project – and we will touch on the One Planet Community Group in a minute – but what was the inspiration for making it “sustainable” rather than just “green.”

Geof: The distinction is really really important to us. I want take issue a little bit with the idea that we are an island. It can certainly feel that way at times, but the reason we are building this project is so that we can create DNA or further the cause that other people have certainly started toward making cost effective changes in the world that are sustainable everywhere. So rather than this being seen as an island or a bubble we are doing it in a suburban location in Rohnert Park which has an average income that equals the United States' average income and we are doing it in a suburban place for very specific reasons. We want to show that you can do sustainability anywhere. So that's kind of countering the idea of doing it as an island.

So, the idea of going into sustainability rather than limiting us to efficiency and recycled and kind of the concepts of green really came about because of exposure to the One Plant program. The language and the challenges they started throwing down to us when we first met the folks from BioRegional really opened my eyes a lot. They started asking questions like well, if everyone in the world lived like people in Sonoma Mountain Village in your plan early on, would the world be sustainable. And if not, how can you justify building this?

Those kinds of questions really hit home, and you really think about this. We are building a town that will largely be as its constructed for lets say 70 to 100 years and the streets and the placement of the buildings will be probably be as we build them for [possibly] 100's of years. So if we don't get it right we are basically screwing future generations for a long long time.

So there is kind of an ethical view point there but there is also a challenge, kind of a business challenge which is if you cannot figure out how to do the right thing and make money doing this, then kind of a feeling like you are no smart enough, I guess. You haven't really applied yourself yet. I think all of us in

this company kind of felt a little bit like well this cannot be *that* hard, it's not like the world has been unsustainable forever.

We became unsustainable frankly when we discovered oil. That was kind of a crutch, and we have been leaning on that crutch so hard that we have forgotten how to use our brains and do stuff that really works – that's modern, that's comfortable, that's healthy, that also is profitable. . . without using someone else's oil. So we kind of thought of it as a challenge.

We made a decision early on that we were going to make every attempt to [make] decisions [at] Sonoma Mountain Village to show that the lifestyles of the people who live and work here are truly sustainable and that whenever we fall short and wherever we cannot figure something out we are going to post that fact on BioRegional and One Planet websites and ask for help from the world community. [We're saying] "it's not just us who are going to suffer if we don't do this right, help us. We can't figure out how to get from 95% waste reduction to 100%. That last 5% is just ridiculously difficult and here's the kind of stuff that's in that 5%. And so what do we do about it?"

So basically the story of Sweden comes back and says you need help from, in Sweden it was the government, in the US it's going to be corporations. It's not going to be the government that's going to do that but corporations have to get together and say we are going to be ahead of the curve and we are jointly and lets says 100 major Fortune 500 companies get together and say we are going to agree that we are not going to produce or send out any produce that is not 100% recyclable or least start with the packaging. That's the easy part. No packaging will be used in any part of our process even in the supply chain that isn't 100% reusable or recyclable.

Ok, that's a pretty easy one and they could start there, and then later we can get on to the products. But that's the kind of lesson we are learning with this is that we will have some areas where Sonoma Mountain Village cannot quite get the fully sustainable because we don't have the support of the people who are selling citizens products or the way our government provides services or the way air travel works, or things like that. But that's like what's kind of the point. The point is to make all those things obvious and to get as close as we possibly can and then raise those other issues that are still left on the table. So it's kind of like we figured everything out except these 25 things and here is the list. If we nail those 25 things we are there. We kind of need that checklist.

Because we are not planning on stopping on Sonoma Mountain Village and I kind of hope that the rest of the world takes a look at this project and the other projects in the program and gets the idea to one up us because that's really the goal, I want somebody to follow us and do better and check off some of those item on that list.

Steve: One thing that seems to get a little bit of press, I mean you guys are getting some good press, but one thing is that you have this huge solar array that you put together. It's the second largest privately owned solar array, I don't know if it still is or not?

Geof: It's not anymore, but that's a good thing. We are probably now the 5th or 6th. But other folks are

catching up and installing systems and we are too, we have another, in fact we are doubling the size this year.

Steve: Is it performing to specifications?

Geof: It is, the cool part about it is when Solar is done at scale a megawatt at a time, in California, so there are a lot of caveats there, it's a profitable venture, its earning a comparable rate of return to our core business. We can make a decent return on that investment, close to 15% return. That's a good investment. It's a good investment for anyone who's got a major rooftop with a big enough load and a good new roof as well. You don't want to have to replace a roof in the middle halfway through the life of the system.

Steve: As far as the solar power, I got a couple of questions, and that is, you are going to double the size of the array, so is that going to be enough power to power the homes during the day?

No, so what we have now and what we are building, what we are adding to it are just for the commercial the town center, the town square, the grocery stores, the offices, the factories, things like that on site. It's just commercial and the reason for that is there is a law in California that prevents you from putting a large solar array up and spreading the power to homes. It is illegal to do that. That was never really the intent of the law but it's the effect of it. So we are working on changing that and there is some movement in that direction but it's going to take a little while. The goal is to create a tool called virtual net metering that would allow us to have homeowners buy into a big system and get credit for how much energy it produces or a portion of that. That basically means the consumers can start buying into the economics of a larger solar array. When you put solar on an individual house the economics cannot go up, so instead of making 14% return on investment you might make 3% or 4%.

You know, that's a doable thing for someone who really cares about the environment and who's looking at interest rates on CD's as a comparison. But the other thing is if you design homes properly and get the energy bills down to \$15.00 a month or so which is where we can get them when we design them right, it's not cost effective to put solar array in at any price because it will never pay for itself, when your energy bill is that low.

So really our goal on the homes is to focus first on energy efficiency and get the bills way way down there and electricity should be around \$15.00 for a typical housing unit. The heating side, when we are still heating with gas, is going to add another \$20.00 average a month to that. When we are heating with electricity – which we will be out here because we are going to be doing everything off of renewable power – [that] will probably add about \$25-30 more per month on average round the year.

So even with an electric bill around \$50.00 a month on average, solar array is cost dispensable on most individual homes. We are hoping that the legislation can allow virtual net metering in time that we can do centralized arrays. If that doesn't happen we have a backup plan basically that will finance solar on each roof of every home, but it's really not our first choice because the economics dramatically change. The homes basically get \$20,000 cheaper if you can centralize solar power. It really dramatically

changes the cost and affordability of housing.

Steve: How else are you planning on powering the community?

[Solar is] our primary mode right now, and we are watching a lot of different technologies. We don't have wind potential out here, otherwise I would be looking at urban wind farms as well. Solar is just a great fit for an urban fabric. It's silent, it's flat, it hugs a building, you know there is no risk to birds it's definitely a very friendly technology in that sense. It does not have any moving parts. It doesn't break very often. So from that sense, solar is a great fit.

The kind of things we are watching are related to biomass and their use in combustion CHP (combined heat to power). And, this is a technology that exists on a large scale, so if you wanted to build a least a 5 megawatt combined-heat power plant that uses biomass, you could, and there are people out there that can build that for you. We would only need a megawatt in addition to the solar we have to run a community. At that scale there aren't any systems that have proven themselves yet. There are some experimental things coming out of Germany and Canada, but nothing has really shown itself as reliable yet and the systems we actually visited are all not working at the moment.

So we are taking a wait and see attitude about other technologies. There is some possibility that there will be a future fuel cell that would run off of a biogas that is made out of cellulosic sources, like waste wood and things like that. But at the moment that is pretty experimental too. So basically we are running all of our pro-formas and everything about the project on solar and if something comes along that's at least reliable and is less expensive than solar, we will take a look at it. That's the way we are proceeding.

Steve: Just so I can backtrack a minute, regarding the virtual net metering and the proposed legislation you are working on, are you working with assembly member Huffman on that?

Yes, Jerad Huffman has been super and really interested in this. Actually I have to say everybody I met with in Sacramento has been super on this. Back just a couple of years ago I met with Chairman Sandsteel. The PUC chair has been super about it, the attorney general has been great about it. Everybody is very much on board with it, except of course the utilities, there is some resistance for obvious reasons from the utilities because they would lose market share but there is a lot of interest in making something like this happen.

Steve: And is there any chance of you generating enough solar that you would, and I use the term loosely, export power outside of Sonoma Mountain Village – that you would generate enough to net-meter back into the grid, you know a surplus that would get out of the Village itself?

Geof: Basically all systems that use solar that don't have batteries that are connected to the grid do that. So in the middle of the afternoon usually it's generating more energy than we are using, particularly in the summer. In the winter and at night we are pulling energy off the grid, we are basically using the grid

as a giant battery. We are net-metering our system, as far as producing more energy than we will use on an annual basis, what we are trying is to balance it so that we are not producing much more than we are consuming. The reason for that is mainly you don't get much financial credit for power that you are producing that you don't use. You get a little bit right now under AB720 [Editor's note: I believe Geof is referring to AB 510, but I may be wrong – I'm going to get clarification on this shortly], but it's not a lot and it's not worth it, so we are really trying to balance it.

Steve: Is there anything that you wanted to build that you could not build because of the power demand? Like maybe a movie theatre or an ice rink - anything out there that you really wanted?

Geof: Let me give you an example how much power we have available. This site was originally built by Hewlett Packard and taken over by Agilent. It is set up to run at a level of power load that is 18 times higher than the community will use when it's done. There is so much power capacity out here, it's ridiculous. So much in fact that we are building a data center and we want to build the first zero-carbon data center. We may not end up being the first, since we heard there is another effort in Europe going forward to do that. But that is fine. So the data centers are these buildings that have servers that run internet and things like that. So we have the plans all drawn up, we got some customers interested. We don't have quite enough customers to make it a go yet, but we are hoping to start that within a year or two.

Steve: How will you make sure that residents control their energy use?

The cool part about this is we are in America, and what we are doing is we are creating a compelling invitation. So instead of telling somebody that you have turn your lights off when you leave a room – you know being big brother about it – we are designing a home and businesses and shops that are by their nature and by their design very very efficient and very low energy and easy to use.

So instead of a complicated programmable thermostat it's a very simple one. It is very easy to learn how to use. You can upgrade it up to something more sophisticated if you want, but the idea is that it's not something you are going to be baffled by and so part of creating that sustainability is our sustainability concierge - that's the person who, when you buy a house out here they will meet with you and talk about all the different ways you can get to and from work and all the places you go without having to drive alone in your car. [The concierge] will show the options for the trains, the busses, and other ride sharing programs, and such, and train you on how to use different systems.

There are a couple of things. There will be some rules the HOA will have that will make it so you cannot use certain types of pesticides for example or herbicides in your yard because we are in a sensitive water shed. But by and large most of this is going to be by invitation, and for that reason we are hoping we can attract a lot of people early-on who will help expand that invitation - they might create clubs or organizations to improve things in the neighborhood and they might take over for us in effect.

Steve: Part of the plan with One Planet Communities and with Sonoma Mountain Village is to have a 82% reduction in transportation omissions, so what will you do if someone wants to buy a Hummer? Or,

I guess you cannot do that anymore, but a really inefficient vehicle?

Geof: You know, everybody can buy whatever they want, right? There is nothing assigned to you when you live at Sonoma Mountain Village. There is no rule that you cannot have 10 Hummers – you are going to have to find a place to park them of course. There is not going to be enough parking for 10 Hummers, but I think part of this will undoubtedly be – in a town of 4,400 or 4,500 people or so – that there were always be a few people who want to kind of thumb their nose at the sustainability effort. And that's fine there are always going to be some people who do that. Most people though, when they are given a really elegant option to live sustainably are going to gradually, bit by bit, change their life to adopt that.

Because most people are pretty receptive to the idea that if it's convenient and cost effective maybe even profitable, and if it gives them more time to spend with their family or spend however they want, then they will choose it. And so if somebody is going to buy a Hummer they are going to spend more money on a car than somebody that buys something less expensive and more efficient or somebody who does not buy a car at all. And so they are actually going to have to work more and that's going to be obvious in a community where some people are actually doing that.

If your neighbor has one car and a wife and two kids and he's chatting it up someday about how he's going to retire 10 years before you are, it's going to have an impact on your life. You are going to think about that. So it's not about the tough sell or about trying to force people to do anything. I don't think that would go over at all, and I don't think it's really very effective. It's more about creating a community where people want this and we are just trying effectively to get out of their way or deliver what they are asking for.

I think that's really what it comes down to is that people have not been offered this option before. If we offer the option people are going to by-and-large start choosing it, not all at once and not everyone, but a lot of people will – pretty quickly – I think.

Steve: And kind of along those lines, have you started accepting kind of a waiting list?

We have a non-deposit waiting list. We will start a deposit waiting list probably by the end of this year and home construction will start the following year.

Steve: So the commercial area is complete correct?

No, the commercial area, the office areas and some industrial zones are completed, at least the interiors are generally completed. We have still about 300,000 square feet left to lease out of the 700,000 we started with. So we still have more space to lease to folks.

But the town square and the street leading up to it is the key retail and that has not been built. We are not going to really begin that until we have completed our, I don't know, our 100th home or so, we are not going to begin [the retail yet] because we really need a few people living here before that becomes

viable. Homes begin next year probably. The town square begins the following year or year-and-a-half later. We still have a couple of years before we start seeing some of that town square come out of the ground.

Steve: So I want to touch on your work with the planning department. I remember in the seminar you said that there was a lot of creativity going on and that you really did work hand in hand with the planning department up there. I was wondering if you could talk a little about that.

Geof: The City of Rohnert Park has been great to work with. They have some super planners right now, and I think most recently we have been putting together a regulating code for this neighborhood – for Sonoma Mountain Village. We are using a form-based code that is jargon for a regulating code that has extremely high standards but a very simple process. It's a way of getting what you kind of initially targeting.

We have a plan for the community that lays out where high density mixed use buildings can be built and where lower density housing can be built and it basically kind of goes through the various pieces of that. The code establishes 100% renewable power, and all of these different requirements, so long as the merchant builder comes in and wants to work with us to build a piece of this neighborhood and they want to follow that prescription then they can get permits very fast for the project. It takes all the risk out of it for them. They basically sail through the permit process because it already has, in effect, been approved. If they want to change it up then they go back to the normal permitting process, and it could take quite a bit longer again. The form-based code is a great tool for a town to get their first pick and dramatically reduce the cost for the merchant builders which does translate into lower home prices too.

Steve: Will the new California State building codes affect the Village?

Geof: Oh, sure the main thing that we are trying to do is track those code changes before they happen and design so that we know that we are in compliance with all future codes now. In general we are not dramatically impacted by the codes because we are designing to beat codes by a fair amount across the board. Most of the code changes reduce the amount we are beating it by rather than change our design.

Every once in awhile there is something that comes along that changes our design, and usually for the better. We have been trying to use gray water in our design for a long time, for years, and the HCD (Housing & Community Development) at the state level just made a rule change and allowed one type of gray water – unfortunately just on single family homes. But you can use the laundry water and sink water to irrigate your yard without a permit. So you can do that right now. And that's good because that changed our design, and made it so we save a bit more water.

Once that [grey water allowance] gets expanded – and we are hoping it does to all types of gray water to all types of house – then we can save a lot more water. Right now we are 36 gallons per-person per-day which is down from a 110 as a statewide average. But if we get that gray water, all purpose gray water passed we can take it down about 22. So there is still more to go.

Steve: Second to the last question... Since this is for Earth Day I just wanted to touch on the One Planet Community Group you have partnered with or least ask you if you could kind of talk a little bit about your relationship with them.

Geof: Sure, they have been super to work with as well. What One Planet and the BioRegional organization behind it have laid out is a system that has this wonderful design ethic behind it. Building a community that if everyone in the world copied we could all be sustainable. And what they have done is they created an organization for the endorsed communities that supports [the goal] in a number of ways.

I mentioned that when we have problems we can post on their board and get advice on how to resolve the problems. That has been super. They also created a consulting service that actually sends people out to our site and in addition to auditing us – which they have to do – they also have a separate group that's able to help provide consulting support. So they have been able to come in and help design our concierge program, and they worked with us on our energy efficiency program. They worked with us on a kind of town planning, and the location and pathways to schools. That was kind of an interesting aside that that was an interesting design criteria that I hadn't really thought of a lot before which is: if you can design a pathway to get to school that is so safe that parents let [kids] do it without [parents] tagging along, then you change the nature of the community entirely and we go back to the day where people just basically sent their kids off to school instead of driving them.

So we really thought a lot about that. Making sure that Kids can get to and from all the homes to the school in a very safe manner. Bio-Regional has been great in giving us examples from communities in China and South Africa and in the UK connecting us with design teams in those places. They have been really good to work with.

Steve: The last question . . . are there really mountains in Sonoma?

Geof: Sonoma Mountain is the name of the mountain that we are at the foot of. In fact it was raining on Sonoma Mountain this morning when it was not raining anywhere else. It's not that tall but it's tall enough to affect the weather a little bit. I guess the tallest peak in the area is Mt. Diablo – around 4,000 feet. I think Sonoma Mountain is only 2,000 something, but its tall enough and we are at 100 feet elevation so we are next to a 2,000 foot peak and we are at 100, so it definitely affects the landscape, and it's beautiful to look at it. Every once in a while it gets a dusting of snow, but it's generally just a beautiful feature in the landscape.

Steve: All right great, well that's it, I've definitely taken up enough of your time, and I definitely appreciate everything. I will get this up by Earth Day morning. Thanks Geof.

Geof: Thanks