

*Interview with Ed Sax on September 24, 2015 talking about the
Solar Adaptive Wall he built for the
Vintage Radio and Communications Museum*

VRCM: What prompted you to create the solar adaptive wall? What were your expectations and your goals in making it?

ES: I've always been interested in solar technology. When we moved to West Hartford I put a couple of solar panels for hot water heating on the roof of our house. These panels, 4' by 8' in size, were made down in Stamford and shown in West Hartford and I thought would fit our roof. They worked very well for at least a decade and then the effects of age began to make themselves evident. Their polycarbonate glazing, which at that time was not treated for ultraviolet degradation, started to break up. The heat exchanger in the basement started to coat up and gradually become less efficient. At any rate it was a great lesson and I got at least ten years out of it and that was my initial experience in that area.

VRCM: And you decided to enlarge that project and make a full wall out of it, is that it?

ES: When we came here I was wondering how to apply solar technology and I thought maybe the best thing to do was to have something not only adaptive to different solar systems but that also would provide exterior insulation for the wall and utilize that wall's thermal mass as well. Thus I put up a system involving a layer of insulation, space for solar collectors and then weather-proof it with glazing made out of U.V. protected corrugated polycarbonate, which is very light weight and economical.

VRCM: Do you feel you accomplished what you set out to do in developing the wall?

ES: I think largely I have. Yes. However I haven't utilized it to its full extent by any means. I never really got around to putting the collectors either the photovoltaic or the hot water, which I had the elements to install but I haven't yet... (chuckle) after all this time gotten around to putting them in.

VRCM: What are the tangible results of all this work? Has it reduced cost or saved energy?

ES: Yes it has. As a matter of fact I did a lot of temperature logs which proved the case. These logs compare our non-insulated, conventional interior insulated and solar adaptive exterior, which is insulated on the exterior rather than the interior.

VRCM: Ed, do you feel that this is a commercially viable project that other organizations can use?

ES: I believe it is. I believe it could pay back in a period of ten years at least. The elements that I used were all standard elements. The insulation, the glazing and the framing were all made here in Connecticut.

VRCM: Anything else you want to say about the wall? I think you pretty well covered what we were interested in.

ES: Well, one last thing. It would not only apply to a vertical wall but also to a sloped roof, even one very gently sloped where snow generally tends to stay and accumulate. In this system, there is potential to run hot air or heated air through the system – heated air collected in some kind of heat storage area – and melt the snow so that it slides off. That would be worth-while experimenting with to find how steep the angle has to be before the snow starts to slide off. To sum up, I believe anyone concerned about global warming should take a look at this system and see its potential to make buildings – particularly masonry constructed one like ours – energy independent. In addition, with all the components except the photovoltaic from Massachusetts, made here in Connecticut, I feel it's worth State attention and support.

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