



What is solar for?

AIRE's new plan for cooperative, sustainable communities solar

Steve Owen, PhD
AIRE
steve@aire-nc.org

Keywords/tags: climate emergency, coronavirus, crowdfunding, community, cooperatives, cooperation, community solar, donor, funder, foundation, resilient communities, solidarity, solar, (see [AIRE blog](#) for full list)

Note: This is a working paper published in unedited form in the spirit of urgency. Edits, corrections, additions/deletions and such will be made as needed and capacity allows. Content, clarity, errors, omissions, formatting, grammar, citations and other things may be lacking in this version.

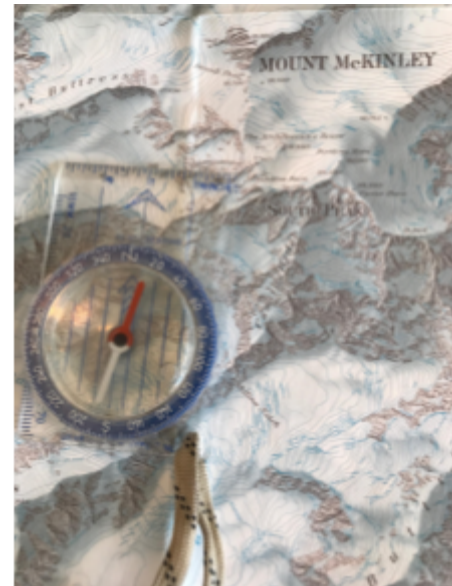
V.1 (unedited) July 30, 2020

This guiding question borrows from the title of a collection of essays, "WHAT ARE people FOR" by agrarian writer, Wendell Berry. It is provocative because it calls our values into question and challenges assumptions. Our conversations and activities at AIRE have recently asked a similar question out of the same vein—

What is solar for?

Is it for profit or for people?

We've always believed it's for people but lately, have been refining and recalibrating our theory and practice to account for the complex of pandemic realities. Thus, we've felt the need to more deliberately situate our solar work in resilience, transition, and cooperation and with the



What's our goal? Where are we? How do we climb the mountain? Will we make it? Metaphor, yes. Principles apply.

organizations on the front lines of that space.¹ This calls for something new.

Reckoning with the danger of this historical juncture

But first, good wayfinding requires a periodic assessment of current realities, a solid assessment of where we are on the map, and in the present case, they're sobering. Repeating this news may be tiresome to many, but it's a vital departure point for solutions-oriented design thinking.

The interrelated and inseparable crises that are visceral signs of an unraveling currently include:

1. Six months into the unceasing COVID-19 pandemic with no end in sight and without the essential political leadership that is necessary to heal the nation's mortally wounded public health and (so-called) health care system
2. The economy in free fall with 50 million jobs lost since the pandemic began, and moreover, the failure of our economic system to do what it ought to do (Whose interests are being served? In other words, what is the economy for?)²
3. Increasing levels of poverty and inequity (Bezos had a good Monday though!)³
4. Racism
5. Surveillance, secret police, authoritarianism, elections, and the crisis of democracy
6. The ever-worsening climate emergency⁴

¹ Resilience, transition, degrowth, localism and several other distinct approaches to sustainability can all be differentiated by various characteristics. For our purposes and intent here, we recognize these distinctions but choose to use one term, "resilience" for simplicity. We also recognize that language is appropriated in ways intended to co-opt and marginalize. These terms are no exception.

² For example, this quote makes clear what the priorities are: "While the Federal Reserve has been showering Wall Street with trillions of dollars in below-market rate loans since September 17 of last year, *the American worker and struggling American homeowner have once again been kicked to the curb*, just as in the financial crisis of 2008. We have to wonder if the CARES Act fiscal stimulus was simply just another way to "foam the runways" for the banks so they don't have to deal with too many foreclosures hitting them at one time. That was the plan in the last financial crisis." (emphasis added)

<https://wallstreetonparade.com/2020/07/warnings-grow-we-are-in-a-massive-economic-downturn/>

³ America's billionaires are making massive gains to their wealth amid COVID-19. See <https://americansfortaxfairness.org/issue/billionaires-pandemic-wealth-gains-burst-700b/>. Also, on Monday, July 20th, in one single day, Jeff Bezos (Amazon) became \$13 billion richer. Not bad for a Monday. As of Monday his net worth was \$189.3 billion.

<https://www.bloomberg.com/news/articles/2020-07-20/jeff-bezos-adds-record-13-billion-in-single-day-to-his-fortune>

⁴ There are many indicators but a couple current examples of the feared tipping points are antarctic sea-bed methane

<https://www.theguardian.com/environment/2020/jul/22/first-active-leak-of-sea-bed-methane-discovered-in-antarctica> and arctic permafrost methane emissions

<https://www.counterpunch.org/2020/07/24/thawing-arctic-permafrost/>.



I sense that the crisis of perception⁵ is evolving from disbelief (though to be clear, for many of us, the climate emergency isn't a new shock like COVID or the others listed) and into a new phase of critical pragmatism that recognizes the urgent need for designs and actions that will help the growing ranks of dispossessed cope with unstable futures. As the myth of American benevolence and greatness evaporates, the common belief nowadays, verbalized by some and surely internalized by many, seems to be that we're on our own. Solidarities do seem to be growing and yet we need to strengthen them, so what "on our own" implies then, is a recognition that our government and corporations have abandoned any pretense of caring for us. Even worse, it goes beyond mere indifference to an explicit acknowledgement of disposability. This loss of faith is a dangerous thing, but it is also liberating and empowering. To this position, Damian White, with specific regards to energy and climate, but I think generally applicable, adds that opportunities to correct, create, and adapt diminish with the passage of time.⁶



Sister Mary Baird of Poor Handmaids of Jesus Christ expressing solidarity.

“All attempts at energy transitions will take place in circumstances “not of our own choosing” and, as climate conditions deteriorate, we will increasingly confront non-optimal choices and trade-offs.”

In a piece published by the Great Transition Initiative, Herman Greene gives voice to the prospect that we are late in the game, argues:⁷

“We are witnessing a failed social experiment and a failed ecological experiment. Environmentalists will see they cannot ride prosperity into a green utopia, and working people will see that the bargain they struck to support elites in exchange for economic growth is no longer viable.

Instead of change from above, change may have to come from below. If we can no longer make a better world, we can be a better world. That is our hope—not revolution, but communities of resistance and renewal. What lies ahead will not be stable. We must labor not knowing the outcome.”

⁵ See <https://aire-nc.org/2020/03/15/crisis-of-perception-what-do-our-major-challenges-have-in-common/>

⁶ Damian White, Just Transitions/Transition Design - Preliminary Notes on a Design Politics for a Green New Deal. *Capitalism Nature Socialism*.

⁷ Herman Greene, "Coping with Barbarization," a contribution to the forum *After the Pandemic: Which Future?*, *Great Transition Initiative* (July 2020), <https://greattransition.org/gti-forum/pandemic-scenario-greene>.

Green is certainly not alone in such an assessment.⁸ It doesn't matter where our analyses or opinions happen to fall on this spectrum of crises, so long as we understand we can all do something. All of this is to say that we are in a pivotal moment that we'll likely never have again; this is our trolley problem (or technical debt), our moral dilemma as social and ecological unraveling continue in interwoven ways.⁹ This layering of crises, amplified by incremental, piecemeal bandaids and inaction, has been likened to walking a plank (hint: it works until you get to the end of it).¹⁰ In response, our conversation has been asking, what do we do with the knowledge— deep, nuanced, broad— we've developed over the past thirteen years in community-owned renewable energy? How do we adapt it for practical means in the face of crisis? How do we share it in new, cooperative ways? How do we use it more in a peer learning frame and less as a consulting fee-based relationship? How do we contribute to moving through the portal of change? How should our practice be different?



This is a Harper's cover that I saved from August 2002 because the image revealed a possible future of inequity and violence. Eighteen years later it is a chilling depiction of reality. Tea Time (detailed) by Guy Johnson.

Protests and policy advocacy play important roles amid these multiple crises, and there's good work being done by many organizations. This is not our work although we occasionally pitch in.

⁸ See for example, Jim Bendell, who has written on deep adaptation. While the literature of collapse isn't new by any means, Bendell's current ecological assessment is very pessimistic, verging on certain collapse. The idea that we can socially construct our worlds, even within the finite limitations of earth sciences, is enough to give pause to Bendell's felt notion that collapse is inevitable. I won't open that theoretical can of worms here. Whether strictly science or gut-level feeling, there shouldn't be any disagreement, however, that humanity and biodiversity are in serious trouble. Bendell's paper— <http://lifeworth.com/deepadaptation.pdf>.

⁹ On the idea of a "trolley problem" or "technical debt" see <https://aire-nc.org/2019/10/26/time-to-see-through-the-smoke-fires-utilities-faulty-perception-and-technical-debt/>

¹⁰ On the metaphor of walking the plank, see <https://aire-nc.org/2019/09/05/walking-the-plank-hurricane-dorian-and-the-self-fulfilling-prophecy-of-a-fragile-energy-system/>



164 South Depot St. Boone, North Carolina 28607 | 828.265.5022 | www.aire-nc.org | info@aire-nc.org

We've been developing projects, researching project development and finance methods, experimenting with modalities, and wayfinding for organizations, but we've shifted toward a more grassroots praxis solar development, less aimed at, and measured by the size of solar projects (though never our sole objective) and the level of sophistication in technical/financial modes of development, and more by subjective qualities around sustainable community development. You might say we're looking for ontological leverage— changing mental models and helping communities.

We've used guerilla solar, make the road¹¹ solar, and various other heuristics in our own conversations around these guiding questions. Making a way out of no way, as DeWayne Barton¹² says, I'm sure with historical knowledge and reverence, is another heuristic that resonates a great deal now. Asking ourselves what we meant, we've translated these to mean finding ways over, around, through and under (so to speak) the many barriers that solar adoption faces, but especially, and this is the new part, for these organizations that are making a way themselves for those with whom they work, with limited or no resources and uncertain futures.

Systems and institutions, particularly the large ones, that have become so bureaucratically top heavy, rules constrained, and politically neutralized or captured have been challenging places for solar development (community-owned, democratic, etc.). There is an analog array of possibilities in any particular case, including at highly rules-bound institutions, thus this doesn't mean that bureaucratic institutions shouldn't pursue solar. Of course they should and we'll continue to work with them selectively. But grassroots organizations that are working on urgent issues faced by marginalized communities have become especially important in this historical juncture.

These are the spaces we are looking to expand our cooperative work within. Some are doing pioneering, experimental work and building working models that engage community members, while others, though sorely needed, don't yet exist.

AIRE's adaptation aims to align with resilience thinking grassroots groups and invent development modalities for them. Local food systems or community health clinics are two

¹¹ Making the road comes from the popular educators, Myles Horton and Paulo Freire, who took a Spanish proverb and made it a mantra- "traveler, there is no road, we make the road by walking" [see "We Make the Road by Walking: Conversations on Education and Social Change"]. Freire interpreted Horton's emphasis on action as opposed to perpetual planning to mean, "in order to start, it should be necessary to start."

¹² See https://aire-nc.org/burton_st_peace_garden/. The passing of Rep. John Lewis is a reminder that this phrase has powerful roots in African-American life and whose meaning is to signify the making of worlds after emancipation.



important examples.¹³ Communities and their institutions will identify them. There are emerging new necessities that communities are identifying and will have to cope with, and they can be designing them now in preparation. Besides food or health care, for example, what about community cooling stations or portable solar air conditioning for the low-wealth infirmed and elderly as coping with heat waves becomes more necessary, frequent and challenging?¹⁴

Our theory of change and solar's role

Utilizing solar is an obvious resilience and self-reliance strategy to provide one's own source of electricity generation. We've observed that groups often turn to the technical as a first step in their solar planning. But planning and developing solar is also a social project intended to transform our energy system and bring about social innovation, values and habits. It is also pedagogical since it evokes critique of the old and imagination and creation of new production and consumption relationships and new forms of social relations. Solar at a community garden, for example, provides working models of sustainable, cooperative communities incorporating solar and equally important, it helps reveal in very quantifiable ways the instrumentally constructed, undemocratic barriers designed to repress renewables and reproduce political power of monopoly investor-owned utilities that abuse their public purpose, their customers, and the environment in various ways.

Pay-to-play, corruption, and massive political spending are standard practice at investor-owned utilities and the veil of corporate social responsibility is being lifted gradually for all to see the corrupt realities. This is looting without the broken glass, and far more damaging. These are hardly the democratic, transparent and ethical behaviors we should expect from our government protected monopoly utilities, given the public benefit such protection is theoretically meant to assure.¹⁵

¹³ See <https://aire-nc.org/models/>.

¹⁴ For example, see this story in Wired on heat domes and the growing need for air conditioning. <https://www.wired.com/story/how-a-heat-dome-forms/>

¹⁵ iWhile not new news to those of us in the field, utility corruption is being exposed to the daylight of public scrutiny. Here are several representative examples. First, an Energy and Policy Institute report highlighting several cases. https://www.energyandpolicy.org/utility-corruption/?utm_source=Energy+News+Network+daily+email+digests&utm_campaign=3c52441ed5-EMAIL_CAMPAIGN_2020_05_11_11_46_COPY_01&utm_medium=email&utm_term=0_724b1f01f5-3c52441ed5-89283127. Vox takes a deep dive into the evolving Ohio energy corruption case. <https://www.vox.com/2020/7/22/21334366/larry-householder-affidavit-ohio-bribery-firstenergy> And finally, in Virginia, yet another example with Dominion Energy corruption, this one also involving racism. https://www.huffpost.com/entry/dominion-energy-thomas-farrell-pipeline-confederacy_n_5f188364c5b6296fbf3cc73c?test_ad=taboola_iframe_mw_lifetaboola_iframe_desktop_news.



The coronavirus, as it has in many respects become a mirror of sorts, has meant that many are unable to pay their electricity bills and it has taken the work of advocacy groups to persuade utilities to suspend their practice of non-pay disconnects.¹⁶ This is not separate from the endemic issue of energy poverty where the various framings are environmental justice, energy justice and social justice.¹⁷ Most people wouldn't probably see investor-owned utilities as agents of oppression until it cuts the power off or maybe pollutes their drinking water source. But they are symbolic of larger currents that make this crisis so real.

So, to go back to our list of crises and the importance of keeping them visible even when people have heard “enough bad news,” our theory of change requires it. As critical educator Henry Giroux¹⁸ writes:

“...critical understanding is not just a state of mind but an empowering practice. It is the precondition for social change and pedagogy is crucial in shifting the way people view themselves, others and the larger world. Democracy requires a certain kind of subject who thinks in terms of broader solidarities and is willing to both translate private troubles into larger systemic considerations, to challenge the various threats being mobilized against the ideas of justice, equity and popular sovereignty.”

Because our mission is, in part, educational, it requires us to periodically assess and update these current realities both with respect to energy and climate, and with broader conditions within which renewable energies need for growth. We've adopted the idea of design aimed at social innovation and whose framework is called for when conventional solutions no longer work. Ezio Manzini, one of the pioneers pushing the field of design into larger areas of practice, not just by professional designers designing “objects” but engaged citizens too, designing new cultures, describes this process:¹⁹

“Design mode means the outcome of combining three human gifts: critical sense (the ability to look at the state of things and recognize what cannot, or should not be, acceptable), creativity (the ability to imagine something that does not yet

¹⁶ AIRE was a signatory. See

<https://aire-nc.org/2020/03/19/center-for-biological-diversity-coronavirus-press-release/>.

¹⁷ Bednar, D.J., Reames, T.G. Recognition of and response to energy poverty in the United States. *Nat Energy* 5, 432–439 (2020). <https://doi.org/10.1038/s41560-020-0582-0>. Also see https://naacp.org/wp-content/uploads/2020/07/Lights-Out-in-the-Cold_NAACP-ECJP-4.pdf.

¹⁸ <https://truthout.org/articles/the-ugly-terror-of-a-fascist-abyss-lurks-in-the-background-of-this-pandemic/>

¹⁹ Ezio Manzini. Design, When Everybody Designs. Also see

<https://aire-nc.org/2018/09/26/making-community-energy-together-in-the-pluriverse-thoughts-on-an-important-new-book/>.



exist), and practical sense (the ability to recognize feasible ways of getting things to happen). Integrating the three makes it possible to imagine something that is not there, but which could be if appropriate actions were taken. It is therefore a way of acting based on a capability to proper to our species, a capability that we all possess and to which potentially we all have access. However, like all human talents, it must be stimulated and cultivated.” (Manzini p. 31)

With the convergence of crises (COVID-19 and Black Lives Matter having been catalysts) we have an opportunity to make change now, but as Arundhati Roy reminds us, portals don't remain open indefinitely.²⁰ Thus, the urgency of action can't be overstated. Accordingly, our new plan is really not so much a plan in the conventional strategic planning sense. Rather, from the heuristic phrases discussed earlier, we've derived a design principle for our work. Given current realities, we feel the most important things are:

1. build solar now, regardless of size, and as quickly and frequently as possible,
2. help important community institutions further their mission of resiliency,
3. situate solar with those organizations that are change agents in their communities, that fill critical service and pedagogical roles, and that contribute to the cutting edge of change, and
4. to learn, adapt, develop and act collectively as we go.

This involves several things. We have always maintained that community-owned renewable energy should be for critical public infrastructure; things like water treatment plants, town hall, fire stations, schools, hospitals. We have been rethinking what critical public infrastructure means at this point and thus a rethinking of project priorities and partners. For example, we wouldn't expect a public school system to move quickly on any type of renewable energy projects (though they should).²¹ Generally speaking, such an entity would fall into the category of a politically constrained public



A key principle with the Burton Street Community Gardens solar project is experiential learning. The community's youth will learn solar along with their other hands-on learnings at Shorty's Hands-On Lab.

²⁰ A Global Green New Deal: Into the Portal, Leave No one Behind
https://www.youtube.com/watch?v=w0NY1_73mHY

²¹ Price advantages exist, however, artificially constructed barriers often prevent schools and other similar public institutions from enjoying them. These vary from state to state.

bureaucracy and any larger scale of solar development would likely be a time consuming undertaking. We would like to be wrong about this. On the other hand, a faith community or some sort of relief and support organization could move quickly and they should, as some have done. I would include social enterprises here and even commercial businesses that are socially responsible if not actual B-Corp certified. These examples stop short of offering a full-fledged organization typology.

We think this approach has the potential to go viral (to use a term befitting these COVID times). Nimble, independent organizations can make decisions quickly. Smaller projects can be conceived of and installed quickly, thus larger projects aren't necessarily better since they tend to be slow moving through the various energy consuming hoops of bureaucratic constraint (e.g. finance and funding, governing boards, system interconnection timeframes and all the regulatory loopholes, etc.). Pre-project feasibility studies and organizing goals are much faster and less formal as well. For example, determining what optimizing goals make sense for any given organization (system price, lower power bill, leader by example, etc.), optimizing system design and balancing with organizational goals require an understanding and analysis of riders, rate structures, dockets and complex rules and rate structures of utilities, and procuring least cost/best value systems components.

AIRE's role will vary from project to project from research, decision support and analysis in larger bureaucratic projects to full fledged project development collaborator and educational partner for these smaller community-driven organizations. The latter role will also evolve in our make the road praxis framing. Where we see this going might be understood as "co-designers of solar projects and of new energy and society imaginations, examples and practices." In other words, we have knowledge to use to develop solar projects but more important perhaps, is a willingness to be simultaneously a teacher, listener and collaborator in participatory settings to help create new cultures of solidarity and cooperation. Solar can be of material benefit in terms of savings on its power bill, but also for building personal and collective agency and for symbolic reasons that help people to see the world differently too.

Current concrete actions

We're working on solar project price reduction through cooperation not competition. This involves rethinking solar supply chains and building value chains instead. Right now, on a per project basis, our main project development objective is to reduce project cost. To understand how we do that, it is important to note the difference between cost and price. In our experience, the first thing an organization that is investigating the addition of solar will do is contact a solar installer. In turn, the installer will make an offer consisting of a basic design and a price. "Price" is the money the installer expects to receive from the prospective customer. However, price is



164 South Depot St. Boone, North Carolina 28607 | 828.265.5022 | www.aire-nc.org | info@aire-nc.org

made up of various costs from the installer's internal perspective. The installer typically, but not always, knows what these costs are in detail. The customer will not know unless the installer is extraordinarily transparent, which is rare.

Solar installers build in layers of padding in project price quotes, and granted, they're in the business to do just that. They make a margin on every piece of equipment they sell, from major system components such as modules, inverters, racking, and from balance of system materials such as wiring and switches. They also make a margin on labor and other costs. We suspect that tax credits²² indirectly enter the installer pricing calculus, such that the value of the tax credit is perceived as "head room" to raise the installation price.

Price is a big driver in solar accessibility, especially for the types of organizations we're targeting here. Therefore a key piece of AIRE's new plan is to deconstruct the supply chain and refashion it more akin to a value chain for the benefit of the nonprofit organization and ultimately for their communities. Competitive bidding is the typical way to manage price and quality via formal or informal RFP's. We are taking another tack here.

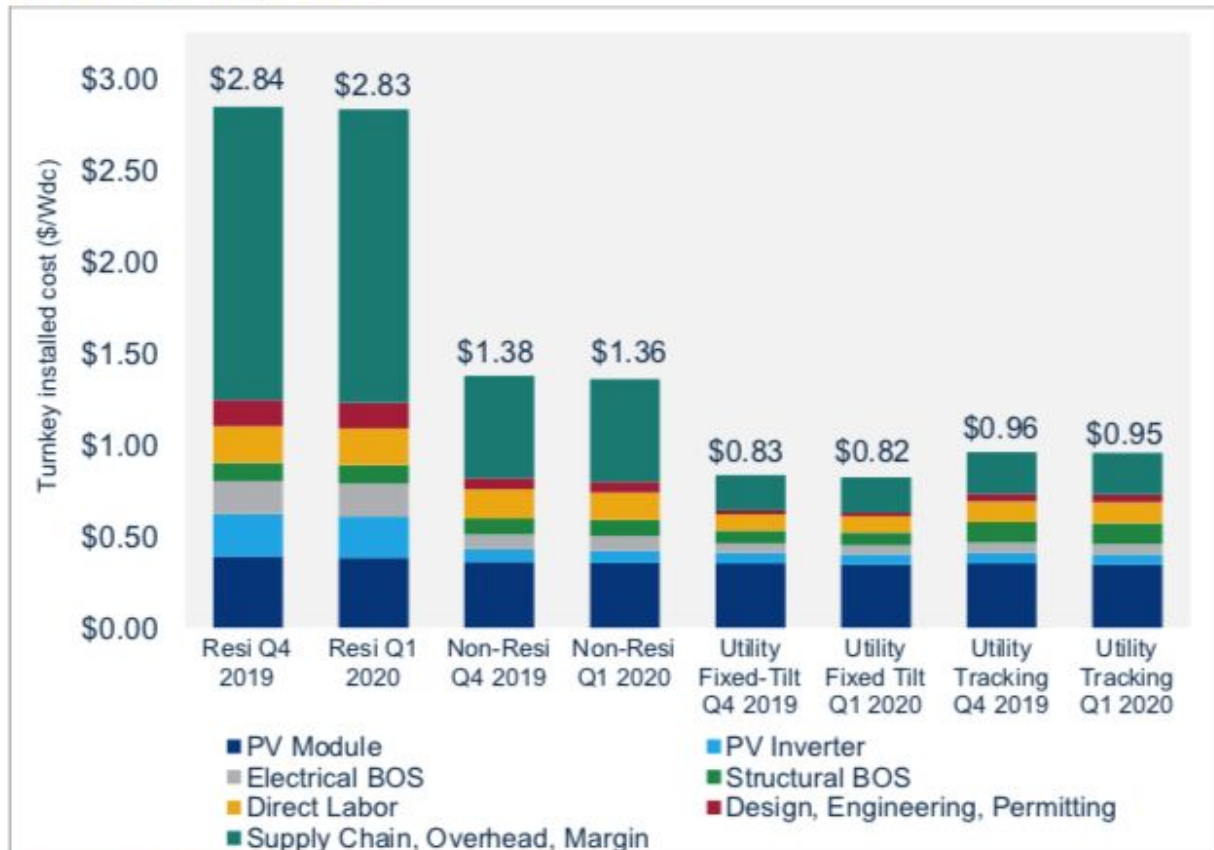
The consulting firm Wood Mackenzie and the Solar Energy Industries Association issues a quarterly report entitled U.S. Solar Market Insight. The chart below comes from the executive summary of that report.²³

²² The federal Investment Tax Credit (or "ITC"), which is currently 26% and in step-down from 30% to phase out in 2022. This tax credit can be very complex to claim, and does not benefit nonprofit entities per se. The use of simple math will not yield an accurate benefit for use of the ITC. For a more granular modeling, see AIRE calculator at <https://aire-nc.org/solar-tool/>. For more on the ITC, see <https://www.seia.org/initiatives/solar-investment-tax-credit-itc>.

²³ Wood Mackenzie/SEIA U.S. Solar Market Insight®



Modeled U.S. national average system costs by market segment, Q4 2019 and Q1 2020



Source: Wood Mackenzie

We'll use our Burton Street Community Peace Garden project as an example and draw from comparisons from the report. In the 1st quarter of 2020, the average price for residential solar in the United States was \$2.83 per watt. Let's assume that Asheville, North Carolina is right in the middle of that bell curve. In other words, prices there are on par with the national average. The garden's system is 4.42kW in size. A kilowatt (kW) is equal to 1,000 watts. Using that size conversion from watts to kilowatts then, the Burton Street system should cost \$12,508.60. The Wood Mackenzie report tells us that "Supply chain, overhead, and margin" comprise approximately one-half of that price, or about \$1.34 per watt. That's the single largest price element from the garden's perspective. The next largest price element is the solar panel (module), which the report pegs at about \$0.41 per watt. Jumping right to the bottom line, the project's price reduction (i.e. nonprofit benefit or "discount") is about 28%. We can do better, but this means we've essentially, even now, reproduced something of greater value than the ITC, and done so more efficiently. Of course there are additional benefits accruing to the nonprofit, but we do not address those in this paper.



164 South Depot St. Boone, North Carolina 28607 | 828.265.5022 | www.aire-nc.org | info@aire-nc.org

COMPARISON: MAKE THE ROAD VS. "RETAIL" SOLAR		
	System size (kWdc)	Average \$ WoodMac/watt dc
	4.42	\$2.83
Element	AIRE \$/watt	Average \$/watt
PV Module	\$0.10	\$0.41
PV Inverter	\$0.22	\$0.37
Electrical BOS	\$0.23	\$0.31
Direct Labor	\$0.60	\$0.23
Supply Chain, Overhead, Margin	\$0.32	\$1.34
Structural BOS	\$0.23	\$0.09
Design, Engineering, Permitting	\$0.34	\$0.08
<u>TOTAL</u>	<u>\$2.03</u>	<u>\$2.83</u>
TOTAL PRICE COMPARISON	\$8,978.40	\$12,508.60
NONPROFIT PRICE BENEFIT	\$3,530.20	
BY %	28.22%	

So far in this “make the road” project development story, we’ve reduced the price to the nonprofit without making labor cut its cost. Simply put, let’s assume that many of these organizations would not be able to afford an installer’s “market price” and therefore the installer will not have that project. The installer’s employees will not benefit from having that contract either. It’s important to remember that we aren’t talking about commercial projects here where entirely different finance tools are in play making affordability an entirely different thing.

Our aim is to take from neither labor nor an installer’s business. While imperfect now, our approach has the potential to scale in ways that could ultimately benefit all. Means and principles by which we’re presently optimizing “price” for the nonprofit, optimizing labor’s portion,



and benefiting installers without asking them to make contributions detrimental to their business or employees include sourcing via surplus capacity, repurposed equipment [“scratch & dent” if you will] and other tactics. We believe that in the near term we can zero module and inverter costs out entirely, but this effort will require capacity we do not have at present.

Parallel to optimizing price, we begin a project with the assumption that the organization has no funding for solar, though this isn’t always the case. Crowdfunding the balance of project cost, after we’ve optimized price is the next step. Smaller projects may cost more per kW installed but the turnkey figure is considerably lower than say a 1MW project whose price would be loosely speaking in the million dollar range. The point is this– it makes it possible to crowdfund from small donors. Burton Street was funded by donations ranging in size from \$2 to \$500. It’s a great story and it brings more people into Burton Street’s story.

While we work on current projects, we are exploring possible next steps to scale the core idea through cooperative opportunities and theorizing for high-impact cooperative enterprises might drive new solar in underserved communities. For example, the possibility of module manufacturing is being reimaged in a way that may make regional manufacturing possible with the emphasis being on jobs, local control and benefit, and not profit. We can also envision cooperative educational outlets that build praxis and pedagogy in ways that meet the vision of solar for underserved communities by underserved communities themselves.

On the idea and importance of moving toward cooperation, Matthew Clemmer’s rebel communication theory reminds us that:²⁴

“Though we find ourselves in a condition of historical violence, the concept we all have of our own nature is the need to cooperate. Human existence is dependent upon our ability to do so. No cooperation, no humanity. We cannot invent or rationalize ourselves out of this fundamental reality of human nature.”

(A more technical and in depth version of this section is forthcoming.)

Funding needs

In short, funders will be required. Funder inquiries from donors, charitable foundations and crowdfunding activists are welcomed. Needs include:

²⁴ Matthew Clemer is the director of Moontree Studios (<https://www.moontreestudios.org/>) in Donaldson, Indiana. Moontree is one of the projects of the Poor Handmaids of Jesus Christ, with whom AIRE has worked on solar (see <https://aire-nc.org/2019/09/30/a-deep-solar-celebration-at-the-center-at-donaldson/>). Clemer’s masters thesis at Indiana University focused on communications.



1. Capacity funding (now and especially in order to scale) for AIRE and for cooperating groups (for cultivating collective impact). AIRE's current "match" reduces project hard costs by +/-28%. That's the current figure, which can also be bettered with capacity that will allow us to pursue scale.
2. Crowdfunding has proven to be effective for all hard costs of small projects. Funding support to enhance crowdfunding operation and outreach will be helpful.
3. We envision having a fund from which we can "match" crowdfunded small donations in order to build more projects faster. Seed funding for this project fund will help expedite project installations.

Looking into the portal

We know the challenges but the portal is open and we can see some of the work ahead. As Joanna Macy wrote:²⁵

"When we dare to face the cruel social and ecological realities we have been accustomed to, courage is born and powers within us are liberated to reimagine and even, perhaps one day, rebuild a world.

Do not look away. Do not avert your gaze. Do not turn aside."

No, we make the road by walking. We make a way out of no way!

²⁵ <https://emergencemagazine.org/story/entering-the-bardo/>

