Supporting communities to take on solar across the USA

To encourage solar energy use across regions, more is needed than sustainability awareness. Applying suitable policies across states, nations and countries impacts the growth of solar energy use at scale. However, there are restrictions. Most residents in the USA do not have the required space available to install solar panels on their property. Therefore, through novel approaches, communities have been uniting to overcome barriers to developing solar energy facilities.

Dr. Gilbert Michaud researches strategies to develop solar energy. In his home state, Ohio, large solar farms are being planned but often cannot handle the degree of workforce required for their installation. Gilbert devises strategies to encourage an expansion of solar energy use in Ohio, and shares these with us.

Above: Dr. Michaud presenting at the “Renewables on the Rise” event in the state’s capital about solar energy careers and workforce issues.
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Q & A - Gilbert Michaud

With solar energy initiatives on the rise, can you share some examples of recent solar energy innovations and their advantages?

How can we encourage the development of large solar farms through new facility and infrastructure developments?

There is a large body of research on the effectiveness of policies to encourage solar energy use at the federal, state, and local levels in the U.S. My own research has found that policies such as net metering and income tax credits are key drivers to solar energy investment, especially at the residential and small-scale commercial levels. Nevertheless, several stakeholders are taking more innovative and aggressive steps to initiate use. For instance, much of my research has focused on community solar, a newer approach that allows multiple customers to share the costs and benefits of ownership in a local solar energy facility.

Only about 25% of U.S. households have the structural ability to install solar panels on their roofs, so this is a particularly compelling strategy that allows renters, condo owners, business owners, low-income individuals, and homeowners with obstructed roofs, among others, to purchase solar shares in an off-site facility. Community solar represents just one important tool in its relative infancy, but beyond policy, we have been seeing a lot of solar energy innovation from local nonprofits and other grassroots efforts.

These have included novel financing programs, alternative rate designs and compensation methods, public-private partnerships, and unique applications (such as solar coupled with electric vehicle charging, or coupled with storage for peak demand reduction), among others.

There is a continually growing appetite for these renewable energy products, and stakeholders have found ways, through formal policies and otherwise, to grow solar energy use.

There are thousands of large solar farms popping up all over the U.S., but one understudied aspect of this process is where to specifically locate a project. Sometimes this has to do with politics, personal relationships, and community support, but from a technical perspective, we really care more about economic factors that decrease development costs (e.g., access to substations and transmission lines), critical facilities as offtakers (e.g., large hospitals, airports, and military sites), and workforce (i.e., having an adequately trained and ready supply of workers to build these solar farms).

This workforce issue has been of particular interest to me and my research team. We know that there are occupational transition opportunities in areas where coal-fired power plants have been closing, and we know that there are veteran populations who could work in the solar industry.

But what we have discovered is that there is a need for upskilling to work in solar, and that many regions ripe for solar specifically lack the necessary training programs at community colleges and the like.

So, it’s really about having the right infrastructure (e.g., a substation to interconnect with), but also making sure there is an adequate supply of local workers, in order to best facilitate large solar farm developments.

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In 2018, SOPEC and a group of local energy stakeholders, including myself, developed a community-based solar / carbon fee model to collect a 0.2 cents per kilowatt hour incremental fee above the standard rate.

In a very innovative and democratic manner, the organization ran this through a ballot initiative, which passed with 76% of voters in favor of adopting the program. These funds will be used to pay for the development of behind-the-meter solar installations in the community, rather than purchasing renewable energy credits from elsewhere.

This compelling model garnered a lot of national attention in the media, and hopefully it can be used as an approach for other CCAs to deploy local solar.

Personally, I’ve been fascinated by the promise of this program as a novel solar financing mechanism, and have made national presentations and recently published an academic article on this topic.
What are the impacts for community employment and careers with the introduction of new solar energy developments, like large solar farms?

The workforce implications for the growing use of solar energy are manifold. Over the past few years, my research has focused on the skills and educational backgrounds needed to work in the solar energy industry, and how to get folks into these jobs to meet the demands of the future. When we are looking at a large solar farm, we need to understand that there is a huge, but short, ramp up of jobs in the construction phase.

We could be talking about thousands of jobs over a one- to two-year period. The operations phase jobs totals are usually much lower, but more technical and higher paying, and last somewhere between 20 and 30 years.

It’s been truly interesting to look at how small communities are dealing with new energy economies, and how declining jobs might match into solar jobs. In Ohio, many large solar farms are being installed in rural communities, as they often have cheaper and larger pockets of land. However, these communities are not often equipped to handle this new activity.

We want to make sure that these areas can deal with these developments, especially from a workforce preparedness perspective.

Solar-related occupations can be great, high-paying jobs, and training electricians, computer operators, and engineers, among others, can be a core strategy to keeping folks gainfully employed in rural communities.

Having local labor is the key to maximizing positive economic benefits from the expanding construction and installation of solar energy.

**Final thoughts**

Dr. Gilbert Michaud’s work uncovers key barriers and opportunities to deploying solar energy across the USA. He emphasizes the importance of considering the community in which large solar farms are built. Offering skilled training to more communities could positively impact local economic development and workforce efforts in areas developing large solar energy farms.

Offering unique solar programs such as ‘community solar’ and the ‘carbon fee model’ developed in Gilbert’s local community of Southeast Ohio, can encourage more solar installations to be made.

**Bio**

Dr. Gilbert Michaud is as Assistant Professor of Practice at the Voinovich School of Leadership and Public Affairs at Ohio University.

Overall, his research focuses on renewable energy policy issues, electric utilities, and energy jobs and workforce development.

**Links**

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