AMERICAN MADE
U.S. DEPARTMENT OF ENERGY

# Community Energy Innovation Prize

## Son Solar Mississippi

**CONCEPT Phase – Impact Plan**

# Content

# 1 Team Information

Stephen Shelton, Team Lead

Scottye Holloway, D.Min., President, Son Solar, Inc.

Suzanne Keys J.D., Legal Consultant, Son Solar, Inc.

Anika Floyd, PH.D, Vice President, Simpson County Center

Duriel Banks, Ed.S., Principal, Magee High School

Ken Whiteside, Education and Workforce Development Professional

James (Eddie) Haynes, Owner JEH Solar, Solar Installer Trainer

# 2 Short Description

The mission of Son Solar, Inc. a community-based, 501(c)(3) non profit corporation, is to empower diverse communities in rural Mississippi using innovative solar initiatives and creating sustainable employment opportunities to face the economic challenges of the undeserved.

Team Son Solar Mississippi has won two American-Made Challenges Prizes: The CPA to develop multiple C&I Solar Installations to form a community solar project in a state whose regulations do not allow for such projects, and The ERC to develop a fully operational demonstration agrisolar farm with microgrid and BESS. Both projects include workforce training components.

The key to succeeding in our mission and in the development of workforce training in a state with little solar industry activity begins with education and training. With the CEI Prize funding, Son Solar will be able to substantially grow our existing efforts with these additional activities:

(1) implementing summer programs for elementary and high school students to introduce them to the need for clean energy and the careers available in the industry,
(2) working to introduce a year-round clean energy curriculum in the public schools and a technical training program at the local community college, and
(3) working with local elected officials and code enforcers to educate and support them and create the city and county regulatory framework for solar installations and other clean energy technologies.

# 3 Impact Plan

## 3.1 Team and Experience Engaging and Supporting Disadvantaged Communities

1. The Team

Stephen Shelton, Son Solar Mississippi, Team Lead, has over 20 years experience as a Clean Energy Professional and subject matter expert. Stephen has developed Residential Energy Efficiency (RESNET) programs and training, and developed the first Certified Solar PV Installer Training program in Louisiana, as a grant partner with the City of New Orleans, one of the 25 DOE Solar American Cities. Stephen is the lead consultant to Son Solar, Inc., and is the principal manager of program design and implementation.

Dr. Scottye Holloway, D.Min., President, Son Solar, Inc., has a history of developing and leading community empowerment programs for SEDIs in LMI communities. He has been the President of MBC outreach programs for 6yrs. Prior to this position, Dr. Holloway has been employed as Lead Pastor at a large church where he lead multiple initiatives to serve the community. He successfully led the program development, curriculum development, and performed the instructor training of a leadership training program in the church's disadvantaged community. Dr. Holloway, once again, is facilitating community empowerment, this time in the area of Clean Energy as he takes a leadership role in the corporate management of Son Solar, Inc., as a trusted member if the Mendenhall, MS community.

Suzanne Keys J.D., Legal Consultant, Son Solar, Inc. Ms. Keys is a member of MBC, and as an attorney, serves as a consultant to Son Solar. She has lived in the community for over forty-five years, practicing law first with the federal legal services program, then as the attorney with MBC's community law office, and then with several small firms. Currently, she is a law clerk to a state court of appeals judge.

Anika Floyd, PH.D, Vice President, Copiah-Lincoln Junior College, Simpson County Center, has spent her carrer in education and administration, and is a resident of Mendenhall, MS. As a past instructor and admissions coordinator, Dr. Floyd's experience will be a great asset to Son Solar's efforts as we partner with Co-Lin to impliment our Clean Energy workforce program at the Junior Colledge level.

Duriel Banks, Ed.S, Principal, Magee High School, is a lifelong resident of Mendenhall, MS and attended both MBC's afterschool and summer programs in his youth. He also has had the opportunity to work with Summer Enrichment Program focusing on helping teenagers become better leaders in the community. Mr.Banks will lead our High School recruitment efforts and serve as a leason between Son Solar and Simpson County High Schools.

Ken Whiteside, has spent 25 years as an education professional. Ken is an experienced training developer, author of Solar PV Installer Training Curricula, Solar Workforce Development program manager and developer, and will be the lead Clean Energy education consultant in the education and workforce training program development.

James (Eddie) Haynes, Owner JEH Solar, is Master Electrician, NABCEP Certified PV Installer, former IREC Master Solar Trainer, and Solar Operation and Maintenance project lead. Eddie will lead the training of selected local construction professionals and apprentices, City and County Inspectors, in the area of Solar Code Enforcement, project construction, and lead the efforts to advance selected professionals to the future role of community based Solar Installer Workforce Trainers.

2. Experience of the team in working in the disadvantaged community

Son Solar, Inc.is the latest non-profit corporation formed by members of The Mendenhall Bible Church (MBC). MBC has served the low-income, disadvantaged citizens of Mendenhall and Simpson County, Mississippi for more than 60 years. Because of its longevity and track record, MBC and its leadership team is known throughout all segments of Simpson County (rich and poor, black and white) as a champion for the poor and disadvantaged and as a developer of innovative programs to meet their needs, and address long-standing equity issues. MBC's ministries and outreach programs have been supported over the years with significant funding from philanthropic organizations such as the Ford Foundation and the Pew Charitable Trust. MBC was recognized as one of President George H.W. Bush's "Thousand Points of Light" for serving as a role model for service and leadership in low-income communities of color.

MBC has led a wide variety of community-driven economic development through initiatives that improve educational outcomes and public health, promote food security, and facilitate equity. Projects include:

**Education:** The first kindergarten and pre-school program for minorities in the county

**Public Health:** The first health center in the county and first minority doctor

**Food Insecurity:** A 120 acre farming venture

**Legal Aid:** The Community Law Office, which operated for fifteen years

**Housing:** Advocacy resulting in a housing rehab program using volunteer labor

**Youth:** Summer jobs for teenagers, and recreation and tutoring for children

**Clean Energy:** Winner of two American-Made Challenges: Community Power Accelerator and Energizing Rural Communities

Since its founding in 1962, one of the stated purposes of The Mendenhall Bible Church has been “to reach the total human being, locally, nationally and worldwide.” This has meant identifying the felt needs of the community and meeting them as best it can. In the 1960's and 1970's, the needs were clear: schools were still segregated, the educational achievements of black youths fell well behind those of their white counterparts; doctors were few and blacks received less than adequate healthcare. The low and moderate income community had few options to purchase affordable clothes, food, and other items. Injustice and discrimination went unchecked.

Addressing these needs, the church initiated a summer enrichment and youth leadership development program, as well as a pre-school and kindergarten – Mississippi did not have publicly funded kindergarten students until 1984. In support of these initiatives, the church constructed a gymnasium. Securing federal funding, the church launched a sliding-scale health clinic and successfully recruited a black doctor to relocate to the community and establish a practice. The church played a pivotal role in community development by establishing a cooperative store, the Thrift Store, acquiring a 120-acre farm, and later opening a law office.

In the 1980's, many minority pastors locally and throughout the state desired to develop similar outreach ministries. Few had formal theological training, but they saw the same needs in their communities as those being addressed in Mendenhall and Simpson County. To help them, MBC began a Pastors Development Program through a grant from the Ford Foundation where more than one hundred pastors received training from nationally recognized leaders in both church and community development.

The church and ministry evaluate the success of its programs by their impact on peoples’ lives and on the community as a whole. The efforts of our law office resulted in a restructuring of the hiring practices of the public school system and challenged injustice by law enforcement and other public officials. The City of Mendenhall has lauded MBC for its work on the City’s comprehensive long-range plan. The sheer longevity and permanence of such programs as Genesis One, youth leadership development, and the Harper Village elderly housing program speaks of the success of those programs.

There have been occasional setbacks however, resulting either when the church’s own internal leadership was reluctant to listen to the advice of outsiders, or when programs were based on the desires of certain persons rather than a community-expressed or supported need. It is best, we have learned, to lead on the power of the idea, not the power of a personality.

Success, we have also learned, results from strong partnerships, built on healthy respect, and seeking (often outside our community) the expertise we need to accomplish what is envisioned.

3. Demographics of the area

Demographically, the church and its outreaches, including Son Solar, serve the LMI community in Simpson County, Mississippi. In 2021, the average annual salary in Simpson County was $24,276 and median salary was $26,513. Simpson County's average salary is 48 percent lower than USA average and median salary is 39 percent lower than USA median. It has a poverty rate of 19.2%. Our community also lacks economic development, jobs and job training. Our school district is the largest employer in the county, followed by Wal-Mart, and has with only two other manufacturing plants (Howard Industries that makes ballasts for florescent lights and employs 300 people, and Polk Foods, that processes meat products and employs 150.) The county seat, Mendenhall, has a population of 2200, and the only other major town in the county is Magee, population 4300, where we have our only Wal-Mart.

Because we are not an outside entity or a privately owned business, but rather because Son Solar is itself a community-based organization, we have a different perspective on community engagement. The membership of the Son Solar board is from the membership of Mendenhall Bible Church, a predominantly black church, with approximately 80 members. Most members themselves are low or moderate income and they live and work in the low and moderate income community. Their friends and neighbors for the most part are SEDIs. Engagement of the LMI community then is something the membership of Son Solar does on a daily basis.

4. Clean Energy Needs

With the growing spectre of catastrophic climate change, the advances in technology, and the recent passage of the Infrastructure Bill and the Inflation Reduction Act making funds available for clean energy projects, church members felt that the time is ripe to develop community projects centering on solar. Moreover, with the ever-present need for meaningful employment opportunities in the rural poor communities such as ours, the time is ripe to create a workforce development training program to encourage and introduce youth in the county to solar technology, and eventually train the un- and under-employed in our community in this new technology. To this end, Son Solar, Inc. a non-profit, 501(c)(3) corporation was formed to develop a demonstration agrisolar farm, to create community solar projects at several sites, and to develop a workforce training development programs.

In July of 2021, Son Solar found an expert in clean energy and solar development, Stephen Shelton, who has assisted us in taking major steps towards our goals. Ken Whiteside, a former colleague of Mr. Shelton's, who has developed curricula for solar training projects in Louisiana and Texas, has also joined our efforts. Together, these consultants have over forty years of combined experience in the field and have secured millions of dollars of federal, state and private funding for projects in New Orleans, Austin, Houston and other cities to advance the Clean Energy industry.

With the help of these individuals and their contacts in the CleanTech industry, Son Solar applied for and has won two DOE American-Made Challenges Prizes. First

we won the Community Power Accelerator Prize, for an innovative way of providing community solar benefits to our LMI community in a state whose regulatory framework does not allow for traditional community solar projects. Second, we won the Energize Rural Community Prize, for the development of a demonstration agrisolar farm on property that the church owns.

## 3.2 Proposed Activities and Goals Aligned to the Prize Award

As stated in the CEI rules: The Community Energy Innovation Prize, in accordance with the Justice40 initiative, aims to fund organizations for ongoing and/or proposed activities related to climate and clean energy.

The CEI Prize program is looking to fund activities that support, build trust, and strengthen relationships and partnerships with disadvantaged communities.

Additionally, it is made clear throughout that the CEI Prize seeks to enable and enhance business and technology incubation, acceleration, and other community-based and university-based capacity building, innovation, and entrepreneurship in climate and clean energy technologies.

Team Son Solar Mississippi believes that our recent Solar Energy initiatives over the last 3 years and our ongoing work in our underserved and disadvantaged community, is exactly the type of clean energy industry capacity building, and entrepreneurship activities that the CEI program is looking for.

The mission of Son Solar, a community-based, 501(c)(3) non profit corporation, is to empower diverse communities in rural Mississippi using innovative solar initiatives and creating sustainable employment opportunities to face the economic challenges of the undeserved.

Recently, Son Solar has won two American-Made Challenges Prizes: The CPA to develop multiple C&I Solar Installations to form one community solar project in a state whose regulations do not allow for such projects, and The ERC to develop a fully operational demonstration agrisolar farm with microgrid and BESS. Both projects include workforce training components.

In the last two years Son Solar has completed significant work and accomplished these achievements towards our mission. These activities also match up with the mission and goals of DOE's American-Made Challenges CEI Prize:

1. Formed a disadvantaged community owned Solar Development company, Son Solar, Inc.

2. Formed a Board of Directors from the community and garnered strong support by having weekly and monthly meetings.
3. Partnered with Entergy Mississippi, City of Magee, City of Mendenhall, and Simpson County
3. Partnered with Churches, High Schools, Community College and two State Universities
3. Hired a Jackson State University Civil Engineering student as a Solar Energy Intern.
6. Performed detailed building electrical inspection, roof inspection, completed solar designs, and performance analysis on the proposed PV Array system for each of 8 local church owned buildings in two cities.
7. A NABCEP Certified PV Installer performed these inspections and conducted real time solar installer and code training with the local city electrical inspector, professional roofer, building maintenance staff, local community business owners, and our Solar Energy Intern.

We believe the key to succeeding in our mission and in the development of workforce training in a state with little solar industry activity begins with education and training. With the CEI Prize funding Son Solar will be able to substantially grow our existing efforts with these additional activities:

(1) implementing summer programs for elementary and high school students to introduce them to the need for clean energy and the careers available in the industry,
(2) working to introduce a year-round clean energy curriculum in the public schools and a technical training program at the local community college, and
(3) working with local elected officials and code enforcers to educate and support them and create the city and county regulatory framework for solar installations and other clean energy technologies.

These activities align perfectly with two of the three Community Energy Innovation Prize goals: Academic Programs and Workforce Development.

The solar industry faces significant challenges in Mississippi due to dominance of the fossil fuel industry and the lack of a state-wide clean energy policy that promotes and facilitates the growth of a clean energy alternatives. Local energy companies actively lobby against community owned solar installations of any meaningful size, creating barriers for solar developers. The absence of solar industry presence has resulted in a lack of solar jobs and workforce training opportunities.

However, Mississippi shows signs of moving towards a more favorable view of clean energy alternatives. It recently submitted a $250,000,000 Solar for All proposal to the Department of Energy (DOE). This proposal includes plans for increased solar installations on homes and allocates funds for workforce development planning. As our state begins to promote solar energy policies and the growth of solar projects, the demand for skilled workers will rise, highlighting proactive workforce development efforts beginning now. We have met with the Mississippi Development Authority which submitted the state's application and connected with workforce personnel on the state

level so that we can be included in the implementation of this program if funding is secured.

Because there is little to no solar training available in the state, Son will initiate several projects with the CEI funds aimed at developing a foundation for growth of workforce development training–namely, educating the community at several different levels in the concepts, the future, and the opportunities that the solar industry offers to our community.

Son Solar proposes projects that include resource and educational material development through four interrelated endeavors.

***Project #1: Developing an understanding and interest in clean energy technology and careers in our youth through a 2024 summer solar scholars program for high school and elementary students.***

Son Solar's sister outreach, The Mendenhall Ministries, has been operating a summer youth leadership program for high school students and a summer enrichment program for elementary age children in the community. These programs will be revamped and include introduction to solar energy, solar technology, and solar careers at age appropriate levels

### A. *Son Solar Summer Leadership Program*

We aim to empower underserved high school student through a comprehensive four week curriculum and provide hands-on experience, expert-led training, and engaging challenges. The goal is to instill an understanding of basic introductory clean energy concepts. This program will nurture environmental consciousness and will also introduce valuable workforce development opportunities, along with their commitment to fostering leadership and innovation in communities with limited resources.

For example, a module could contain the following:

Introduction to Solar Energy
Basics of solar energy, importance, and applications
Challenge: Solar oven construction
Activity: Solar art project
Field trip: Visit to a local solar farm
Field Trip: Visit to the farm

We anticipate 15 participants in the project this summer. We anticipate coordinating this project with our partner churches, Nazareth and New Horizon, to include students from their churches or communities in this first-of-its-kind program in the county. Each student participant will be paid a $200 per week stipend, and work at least one hour a day assisting in the EcoSTEM program. Other classes will include: basics of business, wealth building and management, academic tutoring.

### B. Son Solar's EcoSTEM Pioneers Program

Through the EcoSTEM Pioneers Program, Son Solar aims to bridge the educational gap in underserved communities of rural MS by introducing STEM principles and sustainable practices to children aged 7-13. Son Solar will highlight objectives to engage 50-60 children in a four-week program focusing on STEM principles, clean energy, and community involvement. Additional objectives will include ensuring there is a passion for innovative thinking and environmentally conscious practices. This will be done by blending education, hands-on activities, and impactful field trips to enrich the lives of participating youth.

A sample module might include:

STEM Foundations
Training: basics of stem
Challenge: build a basic structure using STEM principles
Activity: stem related arts and crafts project
Field trip: visit to a local science museum

This program will be measured by actively engaging 50-60 students from various organizations within the community and surrounding counties. We will achieve an 80% participation rate in STEM-related challenges and activities, while conducting successful and impactful field trips to museums, robotics activities, etc. To achieve these goals, collaborating with teachers from Simpson County and Copiah Lincoln Community College for curriculum development and staffing is key. Ensuring an allocated budget for program materials, field trips, and participant engagement activities will also be necessary to secure partnerships with local institutions at a greater level. This program not only aligns with Son Solar's greater mission, but it aids in fostering community involvement and ensuring participants are being environmental conscious.

**Project #2 Implementing clean energy education in elementary and high school curriculum**

With the assistance of its partner, Copiah Lincoln CommunityJunior College and local school administrators teachers, Son Solar will identify an appropriate k-12 curriculum for clean energy education that has been used elsewhere to implement in our county. and work with MBC's school, Genesis One Christian School, and New Horizon International Church's k-12 school, to implement them as demonstration projects. Son Solar will also meet with the local Simpson County School district and work with them to implement such curricula as demonstration projects at one elementary, one middle, and the high school. Given the state procedure for introducing such experimental courses, the offerings may have to be offered through non-traditional

means, such as an after school activity. The delivery of such courses will be determined in our meetings with the school district personnel.

In collaboration with its partner, Copiah Lincoln Community College, and with the support of local school administrators and teachers, Son Solar aims to identify a suitable k-12 clean energy education curriculum, proven effective elsewhere for implementation in our county. Working closely with MBC's school, Genesis One Christian School, and New Horizon International Church's K-12 school, Son Solar will establish these curricula as demonstration projects.

Additionally, Son Solar will engage with the local Simpson County School District, collaborating to implement the identified curricula as demonstration projects at one elementary, one middle, and the high school levels. Considering the state's procedures for introducing experimental courses, alternative delivery methods, such as after-school activities, may be explored. The specifics of course delivery will be determined through ongoing discussions with school district personnel.

***Project #3: Developing workforce training at the junior college level***

Son Solar will continue its collaboration with Copiah Lincoln Junior College in developing solar career training at the junior college level. The Simpson County campus has recently implemented an Upward Bound Program to identify high school students from low-income families and those who may need remedial education in order to excel in pre-college performance and their higher education journey. We will work with those students and others who meet the requirements of our summer program, and introduce them to pursue clean energy careers, but also aid in identifying their auxiliary social needs that may have impacted their success in the past.

***Project #4: Professional and Trainer Development***

Because there have been few solar installations in our area, local city and county officials (city councilmen and code enforcers) have little experience with national solar codes and enforcement mechanisms. Neither the county nor the town's building code contain any provisions dealing with solar installation. Over the next year, Son Solar will identify resources and meet with both groups for discussion of code creation and enforcement, and conduct solar training for code enforcement personel .

In addition, Son Solar plans to identify local experienced roofers and electricians for training to become future solar installers and trainers. This pool of solar installers and potential solar trainers will play a vital role in the construction of Son Solar's Community Solar Projects and in the educational efforts we begin within the schools. Ken Whiteside, an experienced Solar Training professional, author of Solar Installer Training Curricula, Solar Workforce Development program manager and developer, will lead the program's development. Eddie Haynes, a Master Electrician, NABCEP Certified PV Installer, former IREC Master Solar Trainer, and Solar O&M project lead,

will conduct training for the local code officials, construction professionals and apprentices.

Son Solar recognizes that building an industry-approved workforce training program from the ground up, as we have to do in Mississippi, is a marathon, and not a sprint. However, with CEI Prize funding, we can begin the process. With these funds we can help not only our local community but our state move toward a clean energy economy as we begin the process of educating local community leaders about the Clean Energy Industry and transition that is coming and teaching the next generation in the fundamentals of Clean Energy and the Solar Industry.

Each of our initiatives listed above will be measured and tracked according to milestones set-out for each program item such as school curriculum development and review, student sign-up and attendance, community meetings to promote programs, meetings with city and county officials, solar code training completion and attentance, skilled trades professionals recruited and trained, meetings with High Schools and Community College partners. Progress will be tracked and confirmed within weekly and monthly meetings with the Son Solar Missippi Team, and the Son Solar, Inc. managing board along with other our meetins with partner Churches and gramar schools they manage.

## 3.3 Resources and Capabilities to Implement Proposed Activities

**Proposed Budget**

| | Phase One | Phase Two |
|---|---|---|
| Son Solar Summer Leadership Program: | $55,000 | $20,000 |
| Son Solar ECOStem Pioneers Program | 30,000 | 20,000 |
| Curriculum development Programs | | |
| A. local elementary and high school | 15,000 | 20,000 |
| B Workforce training curriculum at junior college level | $5,000 | 5,000 |
| Professional Trainer Development Program | | 30,000 |

**Staff Resources**

A staff of elementary and high school teachers will be recruited for instructional purposes, including the staff of MBC's school, Genesis One. One instructor in solar and clean energy topics will be hired to teach classes at both the elementary and high school level. There will be a director for each instructional program – one for the elementary and one for the high school. The directors will identify and coordinate field trips, secure needed materials, and staff, including guest speakers and lecturers. Meals (breakfast, lunch and two snacks) will be provided for the summer program and a cook and assistant cook hired to prepare them.

The high school program participants will meet in a facility provided by MBC; the elementary program will operate in the Genesis One school building. The overall cost of the summer program may exceed the funds available by winning the CEI Prize, and Son Solar will solicit contributions, donations, and other grants to cover costs.

## 3.4 Concluding Remarks

Clearly, the long-term strategy for any innovation in a low income area should include enhanced economic opportunity and a level field for taking advantage of those opportunities. Equity and inclusion and achievement of J40 goals are central to all of Son Solar's plans.

Son Solar stands at the forefront of ushering in a sustainable energy paradigm in rural Mississippi. Our commitment to empowering underserved communities through innovative solar initiatives is underscored by the recognition we've garnered, including two American- Made Challenges prizes. These accolades attest to our success in overcoming challenges, and our persistent dedication to bridging educational gaps in a region with limited solar industry activity.

Our multifaceted approach encompasses not only clean energy projects, but also emphasizes education and workforce training – components our community desperately needs. By implementing summer programs, introducing a year-round clean energy curriculum, and collaborating with local educational institutions, we are shaping the future workforce and instilling a passion for clean energy in the younger generation – our future. Our endeavors extend beyond the classroom, encompassing regulatory advocacy acting as voices of the community to maintain a comprehensive impact.

Through the faces of opposition, Son Solar remains steadfast in its mission to create a brighter, cleaner future. We invite stakeholders and supporters to join us in catalyzing positive change, proving that clean energy can be a driving force in fostering economic empowerment and educational enrichment in underserved communities. Together, we can build a sustainable legacy that transcends boundaries and transforms the lives in rural Mississippi.