



## **Honnold Foundation Core Fund Impact Evaluation Summary 2020 - 2023**

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### **Executive Summary**

The purpose of this report is to evaluate the Core Fund program from 2020 to 2023. Using data from Round 1 and Round 2 application materials this report answers three guiding questions. First, how do Core Fund projects and grant awards impact partner communities? Second, do the outcomes of Core Fund projects and grant awards align with values established in the HF strategic plan and Core Fund eligibility criteria? And third, how can HF improve, focus, and scale the Core Fund program, given the answer(s) to Question 2?

The Core Fund empowers partner organizations to effect significant change in project communities. So far, the Core Fund program prefers organizations with clear and evident connections to distinct project communities. Thus, a key impact of the Core Fund program is the way it sustains local organizations. The Core Fund serves as a resource for values-based and community-backed organizations to develop projects that answer local needs and opportunities, supporting self-defined energy sovereignty and increasing a community's connection to place. The Core Fund program has succeeded in reaching communities that experience forms of social, economic, environmental, and infrastructural marginalization. Considerable impacts are realized for Indigenous communities and rural communities that receive access to solar energy and solar-powered homes and institutions through partners that understand the importance of community engagement.

Core Fund projects are diverse in style and in scope. However, nearly all improve access to reliable and affordable electric power through new solar infrastructure. Along the way, they apply solar power to address issues beyond the home. Partners use solar infrastructure to sustain and strengthen their existing work in a range of areas, especially in business development, food sovereignty, education, and environmental conservation and remediation. By electrifying a mixture of homes and community institutions, Core Fund projects confer a significant reduction in greenhouse gas emissions, pollution, and costs for project communities. Where partners are community-backed and where strong and effective community involvement exists, Core Fund projects build solar infrastructure to local designs and on local terms. Moreover, Core Fund partners augment solar infrastructure with tailored educational programs on solar energy maintenance and management fundamentals.



In general, the Core Fund program is well-aligned with values established in the strategic plan and in Core Fund eligibility criteria. Communities appear to play significant roles in leading funded work. North, South, and Central American communities are well-represented in recent grant cycles. Marginalized communities are receiving Core Fund projects developed for their needs. Future work is needed to ensure that commitments to island nations, majority-black communities, and priority leader demographics are reflected in future partner cohorts.

## Introduction

From 2020 to 2023, the HF Core Fund dispersed over \$5.6M to support 51 partners and 63 distinct projects, serving approximately 183,144 beneficiaries in approximately 245 communities and in over 25 countries.<sup>1</sup> HF partners leveraged their grant awards to support a range of infrastructural, social, and economic ends. The below pages outline the primary and projected impacts of HF's Core Fund, they are organized in the following sections:

- General Impacts
- Energy-related
- Communities and Marginalization
- Social Impacts
- Typical Partners Projects and Impacts
- Projected Impacts

## General Impacts

- Partner organizations use the Core Fund to build sustainable energy infrastructures locally. These infrastructures distribute electric power according to community designs (community-defined needs and community-defined solutions). These are grassroots energy systems.
- Many communities report infringements on their sovereignty through infrastructural, economic, social, and environmental injustices. Because the resources provided through the Core Fund are “no-strings-attached,” partner communities use the Core Fund as a resource to build forms of sovereignty, and development by and for them. Where

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<sup>1</sup> The total number of beneficiaries includes direct beneficiaries and indirect beneficiaries, as reported by the partners. The category of “direct beneficiary” most often refers to people who operate appliances powered by a project’s solar infrastructure. The category of “indirect beneficiary” most often refers to people who are served by an electrified service provider (as in projects enacted by Tusobola Women Initiatives Network). Unlike other solar developers, HF cares about so-called indirect beneficiaries. This tabulation assumes that multi-year grant recipients reach new beneficiaries with each additional project. This is a relatively safe assumption based in information reported on partner application materials.



historically energy systems were a means of disenfranchisement, here, energy becomes a tool of empowerment. It's a leverage point for communities to cultivate local power and self-governance.

- Energy systems built with the Core Fund support hard-to-fund projects and services. Solar infrastructures decrease the costs to operate new, innovative, locally-led projects premised on the experiences and knowledge of local people. It provides a cushion for communities and organizations to attempt novel solutions to local problems.
- Partner organizations use the Core Fund to improve the quantity and quality of local services. Solar infrastructures decrease costs and pollution and they power new equipment. Partners use the Core Fund to improve the environments and tools of development practitioners (in a variety of sectors and arenas) who know their crafts and their communities best.
- By growing and strengthening the quality of local services (in a variety of sectors and arenas), the Core fund represents, for many partner organizations and communities, a new way to maintain and strengthen connections to place.
- Partners use the Core Fund to increase infrastructural equity, bringing electric power to communities and homes at the margins of electric grids.

## Energy-Related

- Partners built over 1.3 MW of solar capacity.
  - o Standalone solar systems: 46 projects at a total of approximately 860 kW.
  - o Grid-tied solar systems: 13 projects at a total of approximately 430 kW.
  - o Partners supported their solar systems with battery storage in over 49 projects.
- Partner systems generate electric energy at a rate of approximately 1.79 GWh per year. By the end of their useful lives, partner systems funded between 2020 and 2023 will have supplied approximately 53.7 GWh to marginalized communities, avoiding over 38 thousand metric tons of Carbon Dioxide.<sup>2</sup>
- With solar infrastructure supported by the HF Core Fund, partners replaced or reduced energy drawn from gasoline or diesel generators in 19 projects, from the grid in 15 projects, from chemical fuels (such as kerosene) in 14 projects, from biomass in 4 projects, and from gasoline or diesel motors in 3 projects.
- Partners powered a range of appliances with Core Fund support. Partners supported electric lighting in 136 communities, wireless communication in 71 communities, personal computing in 64 communities, internet, and media in 45 communities, electric transportation in 45 communities, refrigeration in 37 communities, water pumping in 32 communities, and industrial goods processing in 16 communities.

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<sup>2</sup> Estimates derived using the US EPA's Greenhouse Gas Equivalencies Calculator.



## Communities and Marginalization

- In 44 projects, partners built solar infrastructure in 204 off-grid communities with over 145,000 prospective beneficiaries.<sup>3</sup>
- In 26 projects, partners built solar infrastructure in 125 communities where over 64,000 prospective beneficiaries are working to address specific environmental and climatological threats – such as deforestation and desertification.<sup>4</sup>
- The Core Fund supported 12 projects targeting 41 largely-black communities.
- The Core fund supported 53 projects targeting 223 largely indigenous communities.
- The Core Fund supported 11 projects targeting 32 island communities. In addition, the Core Fund supported 131 forest communities (18 projects), 10 coastal communities (6 projects), 17 lake communities (5 projects), and 10 mountain communities (3 projects).
- A vast majority of all Core Fund partners serve rural communities. Across the Core Fund portfolio, grants supported solar infrastructure in 229 rural communities (54 projects) and 16 urban communities (9 projects).

## Social Impacts

- In 14 projects, partners deployed solar infrastructure to support local educational institutions.<sup>5</sup> In 13 additional projects, partners deployed solar infrastructure to support local businesses.
- Partners addressed gender discrimination in 13 projects serving 83 communities and approximately 64,000 people. 83% of these prospective beneficiaries (53,395 people) will be met with healthcare that stresses gender equity. Over 3,600 girls will be met with an educational experience that stresses gender equity.
- 58 projects supported largely black and indigenous communities who tend to face forms of ethnic, racial, and political discrimination.
- A key impact of the HF Core Fund is that critical technical capabilities are established for geographically marginalized communities. This is true in at least 39 projects.
- By definition, many partners use the Core Fund to advance infrastructural equity, establishing solar energy systems for 204 off-grid communities, as previously stated. Other forms of infrastructural equity – such as access to transportation, internet (and informational radio), and waste processing – are advanced by partners in 12 projects.

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<sup>3</sup> An indicator of infrastructural or geographical marginalization.

<sup>4</sup> An indicator of environmental injustice/marginalization.

<sup>5</sup> Both childhood education and workforce development are represented here.



- Apart from the 12 projects mentioned above, 15 projects advance economic equity in their communities. The largest contributors to economic equity are projects that create employment opportunities, either through job creation or training (11 projects).
- In at least 19 projects, partners describe a boost to local sovereignty.
- 14 projects address environmental injustices.
- In 20 projects, partners provided technical, solar-related training with anticipated employment benefits to community participants.
- In 38 projects, partners provided technical, solar-related training to community members with anticipated benefits to infrastructural maintenance and longevity.

## Typical Partners Projects and Impacts

- Based on the characteristics of most Core Fund projects, the typical Core Fund project exhibits the following characteristics:
  - o It requires approximately \$90,000.
  - o It supports a new, off-grid solar system (75% of projects)
  - o It installs solar capacity less than 20 kW (70% of projects)
  - o It installs battery storage (78% of projects)
  - o It reduces demand on a form of fossil fuel (71%)<sup>6</sup>
  - o It powers existing appliances (78%)
  - o It powers more than one appliance type (64%)<sup>7</sup>
  - o It powers at least one community-based institution (67%)
  - o It enables their user to save costs (54%)<sup>8</sup>
  - o It serves 3 or fewer communities (62%)<sup>9</sup>
  - o It serves a community in Latin America (54%)
  - o It serves a rural, indigenous community (78%)
  - o It provides technical training that contributes to infrastructural maintenance and longevity (60%)

## Projected Impacts

- If HF increased its Core Fund to \$50M across three funding cycles, 2024 to 2026, the following *additional* impacts could be expected, based on the data surveyed in this write-up:

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<sup>6</sup> Either gasoline or diesel-powered generator, gasoline or diesel-powered motor, chemical fuel, or the national grid.

<sup>7</sup> 55% of projects support light and at least one other appliance type. Only 3% of projects support *only* lights.

<sup>8</sup> Most, but not all, of this saving comes from the reduced demand for fossil fuels.

<sup>9</sup> The size and scope of a community may differ by region.



- o Fundamental infrastructure, energy, and emissions metrics: 13MW of solar capacity, 7.9 GWh energy produced annually, and 380 thousand metric tons of Carbon Dioxide avoided over the funded systems' useful lives.<sup>10</sup> This assumes that the same types of systems are funded.
- o Given HF's desire to consolidate its impact in priority regions, the stated increase in funding capacity may go to past Core Fund partners, past communities, and their associates and neighbors. This means that HF may not see a 10-fold increase in the number of communities served and the number of partners funded.
- o If new projects target new communities, Core Fund investments may reach up to 1.8M additional beneficiaries from 2024 to 2026. Again, this assumes that the same types of systems are funded.<sup>11</sup>

## Conclusion

Core Fund partners tend to strike an important balance between two kinds of impact. First, they improve the quality of life for individual households. They bring reliable and affordable clean energy into the homes of people marginalized by or excluded from municipal and national infrastructures.<sup>12</sup> The Core Fund is a resource for partners to bring electric power to communities without the hassle and costs of grid extensions and interconnection procedures. Furthermore, electricity powers lights, phones, laptops, and other tools from the comfort of one's home. In this way, electricity is a basis or foundation for future innovations. Partners and their communities can configure their solar infrastructures to meet a range of locally defined needs and opportunities as they arise. **Solar energy systems are flexible, sustainable infrastructures that can drive small industries, digital networking, and other goals if/as they desire.**

Second, Core Fund partners support local institutions that develop resources and services for entire communities. Through direct financial support, partners purchase materials and retain and hire staff that enable their organizations to function. Through solar infrastructure, partners collect the cost-savings and resiliency benefits directly and feed them back into the organization to sustain and strengthen their service offerings. In this way, **the Core Fund works to maintain values-based, community-backed institutions with development expertise.** Furthermore, **Core Fund support enables partner organizations to deepen their ties to an issue and/or location of concern.** The fund has no strings attached, meaning that partners are empowered to use the Core Fund to continue proven work or to experiment with new kinds of services.

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<sup>10</sup> This would be a good place to compare HF's projected impact with a large climate fund that exists today. Are there any that have \$50M in funds?

<sup>11</sup> At some point, I expect that the number of partners that are a good fit for HF grant awards will become a limiting reactant – but I don't know the space as well as y'all!

<sup>12</sup> By clean energy, I refer to forms of energy production and consumption that doesn't generate local, on-site emissions.



Of course, the Core Fund's commitment to solar infrastructure achieves the expected benefits of renewable energy: improved access to reliable and affordable electricity through sustainable means. Because many partners work to electrify existing loads, Core Fund projects have a significant and immediate impact on the campaign to decarbonize the global energy system. On another hand, partners that create new demand through Core Fund projects disrupt the inequitable distribution of resources. For this reason, **Core Fund projects are reducing greenhouse gas emissions, creating infrastructural equity among target communities, or both.**

The Core Fund has made clear its commitment to organizations with an evident and established community connection, defining success in local terms. Furthermore, the Core Fund's commitment to community-founded, community-based, and community-led organizations demonstrates an attempt to empower marginalized communities to lead the transition to renewable energy. In this way, **HF creates, through access to solar infrastructure, a way for community-backed partner organizations to build political power and forms of self-governance.** Partner organizations and their allies determine where and how to invest their awards. Historically, electric power systems have shaped the distribution of social and economic opportunities. The Core Fund intervenes in this history, enabling partners to configure electric power systems in ways that align with grassroots visions for the future of social, cultural, and economic life. **Electric power, to their designs, on their terms.**

Overall, the insights presented here demonstrate a single important takeaway: that **the Core Fund supports place-based communities with solar infrastructure and solar education – empowering partners to install renewable energy and the skills to manage it, locally.**