



Institute For Economic Justice POLICY BRIEF



BRIDGING THE GAP AND ALIGNING SOLAR PV POLICY WITH THE REALITIES OF GHANAIAN FIRMS

Daryl Bosu, Fiona Neena Achiamaa Frimpong,
Mohammed Saani Osman and Charles Gyamfi Ofori



Executive summary

Ghana's solar PV sector faces a persistent gap between government policy ambitions and the realities of domestic firms. Although policies recognise financing, technology and skills as key constraints and local participation requirements create opportunities for Ghanaian enterprises, firms continue to struggle to move beyond downstream activities into higher-value segments of the value chain. Survey evidence shows that firms remain predominantly small, have limited local sourcing and investment in productive capabilities, and rely heavily on imported technology, equipment and inputs.

This gap is reinforced by the way existing support is delivered. Policy inconsistency, financing difficulties and competition from larger or foreign

firms are significant challenges for firms, while existing enterprise-support and development-finance interventions are often too broad or difficult to access to address the specific needs of solar enterprises. International partnerships and training also do not consistently translate into sustained local technological and managerial capabilities.

The brief argues that addressing this gap requires better alignment between policy instruments and the realities of firms. This means complementing local participation requirements with targeted enterprise support, accessible and patient finance, structured technology and skills transfer, and stronger coordination among institutions supporting the sector. Such an approach can help Ghana translate growing solar PV demand into stronger domestic productive capabilities and greater local value capture.

and management capabilities (Kuada and Mensah, 2020).

While solar PV adoption in Ghana has grown by more than five fold between 2000 and 2021, local firms face the challenge of being able to competitively meet the demand despite the constraints¹. Government intervention in the renewable energy sector has sought to address these challenges and set local firms on a path of panel assembly and manufacturing (Ofori et al., 2026). Policies such as the Renewable Energy Masterplan, the National Energy Transition Framework and the National Energy Policy, have cited the key structural challenges facing firms, namely financing, technology and skills. Yet, these policy ambitions are yet to reflect in the realities of firms. Without adequate policy implementation, growth in demand will increase sales volumes while leaving Ghanaian enterprises small, under-certified and dependent on imported technology and inputs.

This brief draws on findings from our research on Ghana's solar PV sector and is structured in five distinct sections. Following this introduction, the second sets out what a firm survey shows about the current position of Ghanaian solar enterprises. The third examines Ghana's existing enterprise support architecture and why it does not reach these firms. The fourth provides policy recommendations to enhance enterprise support. Finally, the fifth provides a conclusion.

Introduction

In the solar photovoltaic (PV) sector, Ghanaian firms already capture value through sales, system design, installation and maintenance (Edze, 2025). However, their ability to move into higher-value activities remains constrained. Many lack the financing needed to invest in equipment for assembly and advanced services (IFC, 2021). Smaller firms struggle to absorb certification costs required to compete for formal contracts while others lack mechanisms to convert supplier relationships into locally retained engineering

The Ghanaian solar firm: what the evidence shows

The findings present a clear picture of Ghana's emerging solar PV industry: a sector dominated by small, locally owned firms operating primarily in downstream activities and relying heavily on external sources of technology, equipment and innovation. While Ghanaian firms have established a strong presence in supplying, installing and maintaining solar systems, their participation in higher-value segments of the solar PV value chain remains limited.

¹ The estimate of solar PV adoption was based on the results of Ghana's Housing and Population Census conducted in 2000 and 2021 by the Ghana Statistical Service.

In a firm survey conducted by the project team,² half of the respondents employ between one and ten workers, while a further 43.8% employ between 11 and 49 people, reflecting their small sizes. Respondents also reported irregular revenue inflows due to their dependence on project calls which are not often predictable. This makes it difficult for firms to maintain stable operations, retain skilled workers and invest consistently in new technologies and productive capacity.

The survey findings also correspond with the literature which characterise the sector as heavily concentrated in downstream activities. From the recorded responses, about 62.5% of surveyed firms operate as solution providers or systems integrators, while only 12.5% have ventured into assembly or light manufacturing. Local sourcing remains limited, with nearly half of responding firms obtaining less than 25% of their key inputs locally. This means that although Ghanaian firms increasingly own the customer relationship, much of the supply chain and the associated value remain outside the domestic economy.

Investment patterns reinforce this downstream orientation. More than half of survey respondents invest in areas such as design, marketing, logistics and research, compared with only 20% investing in production efficiency or quality systems. Firms are therefore strengthening their commercial capabilities faster than their productive and technological capabilities.

International partnerships are widespread but do not always translate into structured capability development. Four in five surveyed firms have some form of international partnership, ranging from informal supply arrangements to formal relationships and joint ventures. However, these relationships often provide access to products and markets without clear mechanisms for transferring engineering, production, management or technological capabilities to local firms.

Skills development follows a similar pattern. While 93% of survey respondents provide training when required, fewer than half operate formal training programmes. Training is therefore largely reactive and task-specific, limiting the accumulation and retention of specialised skills across firms and the wider industry. These capability constraints were largely associated with a difficult operating environment. Policy inconsistency was reported as a challenge by 87.5% of firms, competition from larger or foreign firms by 81%, and financing difficulties by 75%. These challenges increase uncertainty, raise the cost of capital and weaken the ability of local firms to invest, compete and benefit from the growing demand.

Ghana's enterprise support architecture and why it does not reach local solar PV firms

The evidence presented in the previous section suggests that a central challenge for developing Ghana's local solar PV sector lies in the ability of government policy and intervention to meet the unique needs of local firms. Ghana has a range of institutions and policy instruments intended to support enterprise development, access to finance, sector regulation and local participation. However, the existing support architecture does not adequately respond to the specific contextual needs of local firms operating in the solar PV sector. The result is a disconnect between broad enterprise support policies and the practical requirements of firms seeking to upgrade into higher-value activities.

The Energy Commission (Local Content and Local Participation) (Electricity Supply Industry) Regulations, 2017 (L.I. 2354) provide an important policy basis for increasing Ghanaian participation in the renewable energy sector by establishing local participation obligations. In principle, these provisions can create demand and market opportunities for domestic firms.

² This survey was sent out to the 54 registered renewable energy companies in Ghana and received 16 responses.

However, local participation requirements have not been sufficiently complemented by an industrial policy and incentive framework capable of enabling Ghanaian firms to develop the capabilities required to fully respond to these opportunities (Ofori et al., 2025).

The Ghana Enterprises Agency (GEA) is mandated to support the development of micro, small and medium enterprises through business development, training and other enterprise-support programmes. However, these interventions are often short-term and broad-based, rather than designed around the specific technological, financial and productive capability requirements of solar firms (Ofori et al., 2025). This limits their effectiveness in supporting long-term upgrading. The challenge is compounded by high policy inconsistency and limited awareness reported among firms regarding the support programmes available to them.

Development Bank Ghana (DBG) was established to facilitate longer-term finance to businesses through participating financial institutions. Its model has the potential to address one of the most significant constraints facing solar firms: access to patient capital for investment in equipment, technology and productive capacity (Edze, 2025; Boakye and Ofori, 2022; Kuada and Mensah, 2020; Sackey et al., 2020). However, firms continue to report high interest rates and prohibitive requirements for accessing finance: 62.5% of survey respondents identify finance as a structural barrier and 75% report operational financing difficulty. This suggests that the availability of development finance has not yet translated into accessible financing for many small and medium-sized solar enterprises.

Overall, Ghana's enterprise support architecture contains many of the institutional building blocks needed to support local solar firms, but these institutions and instruments largely fall short in responding to the unique needs of local firms. Closing this gap will require a more coordinated approach that links enterprise development, finance, regulation, local content and capability-building to the specific needs and upgrading pathways of Ghanaian solar PV firms.

Developing a targeted policy support framework for local solar PV firms

Government interventions in the solar PV sector can respond better to the needs of local firms if they are more targeted. The following recommendations suggest actions that can help to bridge the gap between Ghana's policy ambitions for the solar PV sector and the practical constraints facing domestic firms. They focus on moving beyond participation towards sustained enterprise support by improving access to finance, technology, skills and coordinated institutional guidance.

1 Establishing a solar enterprise development programme

Create a Solar Enterprise Development Programme that segments firms by capability and required support. Begin with a firm mapping exercise and capability diagnostic using Energy Commission licensing data and industry association membership, then provide tailored diagnostic, business, engineering and digital support aligned to the pathways above.

Publish selection criteria, investment amounts and performance milestones, so that the programme is auditable and firms without political connections can see how to qualify. Eligibility should require a credible upgrading plan and a baseline diagnosis. Local ownership alone is not a sufficient test, and using it as one invites capture.

2 Making finance usable

Combine credit guarantees, concessional loans, equipment leasing, working-capital facilities and results-based grants to complement the DBG and reduce financing barriers.

Enhance relationships between finance providers and solar PV firms. Concessional wholesale funding may not reach firms if they are not able to provide key eligibility requirements such as financial records, ESG commitments, or ability to prepare bankable proposals.. Providing a forum for firms and financiers to engage can enhance capacities of firms to prepare bankable proposals and meet funding requirements.

Condition support on quality milestones. Financing releases should be structured as instalments and tied to regular reporting and monitoring to reduce the risk of greenwashing.

3 Structuring partnerships for learning

Match Ghanaian firms with credible technology providers through a facilitated process rather than leaving partnership formation unstructured, and provide legal and commercial advisory support so that smaller firms negotiate technology or skills transfer terms from an informed position.

Encourage joint ventures and supplier-development agreements with measurable milestones to track the effectiveness of partnerships, and technology and skills transfer arrangements.

4 Connecting capable firms to demand

Maintain a verified supplier directory and publish market opportunities, with tender-readiness support for firms that have completed certification.

Organise supplier-development and buyer-matching arrangements with public and private buyers. This will create a mainstreamed platform and local market for firms to access and bid competitively for contracts.

5 Enhancing collaboration for skills development

Co-design modular training with firms, TVET institutions and universities, covering installation, design, project management, quality assurance, battery systems, operations and maintenance, manufacturing basics and recycling among other areas.

Conclusion

Ghana has established a policy and institutional foundation for increasing domestic participation in the solar PV sector, but the evidence points to a persistent gap between policy ambition and the realities facing firms. Local participation requirements can create market opportunities, but without complementary support for finance, technology, skills and productive capacity, policy ambitions may remain far from reach of local firms.

Closing this gap requires a shift from broad policy commitments towards coordinated implementation that responds directly to firms' upgrading constraints. Aligning enterprise support, development finance, local-content implementation and capability development would enable Ghana to use its growing solar PV market not only to expand renewable energy deployment, but also to strengthen domestic firms and retain more economic and technological value within the country.

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