



Renewable energy procurement in Vietnam’s apparel manufacturing sector: lessons learned

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Apparel manufacturing’s role in Vietnam’s ambitious net-zero pledge

At the COP26 conference in November 2021, Vietnam’s Prime Minister boldly committed his country to “capitalize on its advantage in renewable energy and take stronger measures to reduce greenhouse gas emissions...to achieve net-zero emissions by 2050”.¹ Vietnam’s commercial and industrial sector (C&I) is key to achieving the Prime Minister’s ambitious pledge, as it consumes approximately 60% of all of Vietnam’s electricity generation.² Thus, for the country to meet its 2050 pledge, its C&I energy users must accelerate progress in their transitions away from fossil fuel-based energy sources.

This is particularly the case for apparel manufacturing. In 2021, the apparel sector accounted for 16% of Vietnam’s gross domestic product and it continues to grow.³ Worldwide, apparel manufacturing is among the largest energy consuming sectors, globally emitting 1.2 billion tons of carbon dioxide per year (approximately 10% of all global carbon emissions).⁴ Vietnam has become the second largest supplier of apparel and footwear to the U.S. market behind China and the world’s fourth largest exporter at global scale.⁵ Thus, Vietnam’s apparel manufacturing sector can play a crucial leading role in Vietnam meeting its new 2050 net zero goal by accelerating its clean energy transition, lowering emissions, and even in helping global apparel brands reduce the climate impacts of their supply chains.

Advantages for apparel manufacturers that decarbonize

Apparel companies can help lead Vietnam’s clean energy transition, but why would they want to? The leading advantages are cost savings for the manufacturers and creating a competitive advantage to attract brands and consumers who increasingly consider the sustainability impacts of their partnerships, investments, and purchases.⁶ Over the last three years, the apparel

¹ Full remarks by Prime Minister Pham Minh Chinh at COP26

<https://primeminister.chinhphu.vn/full-remarks-by-pm-pham-minh-chinh-at-cop26-11240273.htm>

² Vietnam Power Development Plan VIII representation

<http://vepg.vn/wp-content/uploads/2021/03/thuyet-minh-qhd8-22-2.pdf>

³ Vietnam General Statistic office <https://www.gso.gov.vn>

⁴ The price of fast fashion. *Nature Clim Change* 8, 1 (2018). <https://doi.org/10.1038/s41558-017-0058-9>

⁵ <https://www.statista.com/statistics/1094515/share-of-the-leading-global-textile-clothing-by-country/>

⁶ Roadmap to Net Zero: Delivering science-based targets in the apparel sector. World Resource Institute and Apparel Impact Institute

<https://files.wri.org/d8/s3fs-public/2021-11/roadmap-net-zero-delivering-science-based-targets-apparel-sector.pdf?VersionId=LxrwUSv9dHytM7zybuQgoJ8LUHBZVqM1>



industry has seen a proliferation of companies setting [science-based targets](#) (SBTs) on climate change. Currently, over 100 apparel and footwear companies have approved SBTs or commitments to set them and this number continues to increase. The report “[Roadmap To Net Zero; Delivering science-based targets in the apparel sector](#)” by the World Resource Institute and the [Apparel Impact Institute](#) provides direction for how companies and the sector can focus collective attention on the most impactful interventions for reducing emissions by 45% by 2030 and to net zero by 2050. It identified 6 key interventions for the sector to reduce emissions by 424 megatons of carbon dioxide; shifting to 100% renewable energy is the most impactful opportunity.

In 2021, the [Clean Energy Investment Accelerator](#) (CEIA)—a public-private partnership supporting the acceleration of the corporate clean energy transition in key emerging markets—assisted five apparel manufacturers for three major global brands to issue requests for proposals (RFPs) for rooftop solar on eight manufacturing facilities across Vietnam. The winning bids offered discounts between 8–20% compared to the existing electricity retail tariffs. A similar ongoing group RFP issued by the consortium CEIA-Aii-IDH is assisting 9 apparel manufacturers from 6 global brands, and has received proposals with discounts ranging from 10-44%, which would be a clear advantage for each manufacturers’ operating expenses.

In addition to cost savings, the transition to clean energy also builds a competitive advantage for the manufacturers. Both consumers and the global brands who are large purchasers of Vietnam’s apparel manufacturers’ products have rapidly become aware of and concerned with their carbon footprints. Many Vietnamese manufacturers may want to transition to lower, or even net zero, carbon footprints for internal corporate responsibility reasons. Even Vietnamese manufacturers who would not make this transition on their own are considering or actively pursuing transitioning to clean energy solutions to ensure their continued partnership with their climate-conscious global brand consumers.

Lessons learned for apparel manufacturers’ clean energy procurement

Currently in Vietnam, the only option for corporate renewable energy procurement is to install on-site generation systems, except in very rare circumstances. The CEIA has supported corporate procurement of rooftop solar photovoltaic systems in Vietnam since 2017 with the goals of testing innovative procurement mechanisms and disseminating tools and knowledge to the market. To assist companies contemplating an investment in a clean energy transition, CEIA has developed a set of lessons learned broken down into three categories: recommendations for all rooftop solar procurement, procurement through a Power Purchase Agreement (PPA) model, and procurement through a Turnkey model.



1. Recommendations for all rooftop solar procurement

Build a rooftop solar procurement team to gain in-house familiarity

Most corporate energy buyers are purchasing on behalf of a business not in the energy sector, and unfortunately, the technical and financial dynamics for solar procurement can be complex at times regardless of the procurement models being considered. Thus, the first important step is to set up a procurement team including members of both the finance and technical staff (ranging across facility management and operations and maintenance staff). The team should both self-educate from readily-available online resources, and may wish to consider hiring a consultant to educate them to a more in-depth level and even help guide them through the procurement process. It is also beneficial to assess the level of commitment from the company's leadership for solar procurement and even better if a leader is part of the greater procurement team.

Understand which of the two primary on-site rooftop photovoltaic (PV) procurement models is best for your company

In general, there are two major procurement models for rooftop PV in Vietnam: PPA and Turnkey. There are different benefits to each model and it is important for a business to consider which will bring greater value to the company as a buyer of clean energy.

Through a PPA model (also called Operational Expenditure [OpEx] or "pay-as-you-go"), a solar project developer finances and retains ownership of the solar system they install on the company's rooftop. The developer then sells the solar electricity to the buyer by the kilowatt-hour (kWh). In this model, the buyer pays no money up front for the solar installation and only pays for the electricity they consume; the project developer is responsible for operations and maintenance of the system.

Through a Turnkey model (also called Capital Expenditure [CapEx]), the buyer purchases the solar system outright from the installation company either paying entirely on their own or by borrowing the funds. In this model, the buyer owns both the system and all of the electricity that is produced. This model costs more upfront than a PPA, but saves more money over time as the buyer only has to pay relatively low operations and maintenance costs and any loans obtained for the purchase.

Cultivate leadership buy-in over time

Many, if not most, non-energy sector corporate leaders will know very little about solar procurement and may not realize that the technology is no longer aspirational, but instead a mature and likely cost-effective investment. Therefore, procurement teams that gradually educate senior leadership to secure buy-in over time tend to be more successful in securing



rooftop PV for their facilities than those that suddenly produce an analysis and proposal all at once for approval.

Obtain your company's "load profile" to right size your solar system

The most cost effective solar installation is one where every solar kWh generated is immediately consumed by the buyer, therefore right sizing the system size is crucial to cost-optimization. To maximize this efficiency, the solar system designer will need your facility's "load profile". A load profile is simply a table noting how much energy your electrical system has consumed every hour (or every 30, 15, or even 5 minutes) across a full year (optimally) or at minimum across a 3-month period. The more data points that are included in the load profile, the more precise the system can be sized to match your facility's consumption patterns to the variable supply of solar-based electricity.

Prior to January 2021, Vietnam had a feed-in-tariff (FIT), which meant that if a rooftop solar system generated more electricity than the buyer was consuming, the excess energy would flow into Vietnam Electricity's (EVN) grid and they would pay the buyer for that excess energy. However, because the government canceled the FIT, if a buyer's rooftop system is big enough to produce more energy than what the buyer's facility can immediately consume or store, that energy is wasted. Prospective solar buyers should make sure that their vendors install a system sized to offset the largest amount of the buyer's energy load while minimizing energy wasted.

Use a standardized request for proposals (RFP) submission template

A common challenge for companies that lack experience with solar procurement, but who want to issue RFPs, is comparing diverse bids in a kaleidoscope of formats. RFP responses can contain a large array of various commercial offers and technical aspects that makes it virtually impossible for any but the most experienced buyer to compare the bids "apples to apples" and therefore accurately evaluate the different proposals.

CEIA's experience has demonstrated that using a standardized RFP submission template can serve as a useful guide for companies to know what submission criteria to look at and how to better evaluate multiple proposals based on the same key criteria. With CEIA's issuance of a standardized RFP submission template, buyers can proactively demand solar development companies meet their requirements and provide clear, concise, easily comparable bids with less room for distracting, confusing, and unnecessary details. Moreover, the use of a submission template can allow the buyer to mandate the incorporation of non-technical and non-financial dynamics that the buyer may value, such as business ethics standards. For example, CEIA has used the RFP submission template to request information about the developers' gender equity track records and on their policies to ensure avoidance of forced labor in their solar equipments' manufacturing supply chain.

Secure legal counsel for experience in energy transaction negotiations

When the buyer is entering into the bilateral negotiation stage with a solar developer, hiring legal counsel experienced in energy or electricity transactions can offer strong benefits. Expertise in these areas helps the in-house procurement staff understand the types and details of commercial contracts that they might not have handled before, thus minimizing transaction risks.

2. Lessons for PPA procurement

Ensure senior-level buy-in early for long-term PPA contracts

The standard length for PPA contracts in most of the world (including Europe and North America) is 10–15 years. Such a long-term commitment often is intimidating to senior leadership of non-energy sector companies in Vietnam, particularly when the PPA contracts seem complex. This dynamic is exacerbated in industries with short business cycles like the apparel sector. Therefore, procurement teams that gain senior leadership buy-in early in the procurement process tend to be more successful in securing rooftop solar for their facilities.

Ensure ability to demonstrate creditworthiness or good commercial and financial standing or rating

Although a PPA does not require securing a line of credit from a bank, solar vendors will often require proof of creditworthiness or good commercial and financial standing or rating from the buyers because the vendor will be paying out significant sums of money to build and maintain the solar system on the buyer's roof. The vendor must be confident they can recoup their investment over time by selling the buyer the solar electricity. However, it is not always straightforward for a buyer to obtain a creditworthiness rating or to provide proof of clear financial standing. Aii's [Fashion Climate Fund](#) supports programs to help improve buyer's creditworthiness, such as through offtake agreements, aggregated purchasing groups, and technical assistance. It is also recommended to inquire with the vendor about this requirement and to plan ahead for fulfilling this potential request.

3. Lessons for Turnkey procurement

Ensure ability to secure procurement financing

If the buyer needs to borrow capital to pay for the solar installation, they need to ensure in advance they can secure a line of credit. However, some businesses may lack financial know-how to solicit and evaluate loan options from commercial lenders. Local and foreign banks have become more active and competitive in the solar lending sector in recent years,



providing buyers more, and better, borrowing options for investments in rooftop solar systems.

Conclusion: Share your company's procurement journey to advance the sector's clean energy transition

Through the close collaboration between CEIA and the apparel industry, it is proven that concerted efforts by global brands combined with strong commitment from their manufacturing suppliers results in more successful clean energy procurement that contributes to accelerating the decarbonization process for the brands, the manufacturers, and the country. To that extent, companies that have a strong commitment to decarbonize their supply chain should take a proactive role to support their suppliers. This practice holds true in other industrial sectors, such as in the pharmaceutical, electronic, chemicals sectors, where various global brands and multinational companies have supply chains across emerging economies like Vietnam.

Another best practice that has had credible, successful impacts in the Vietnam market is participating in trustworthy platforms and communities to share best practices and lessons learned that enhance knowledge and build capacity for clean energy buyers. The Renewable Energy Buyers Working Group hosted by CEIA in Vietnam is a prime example of this type of trusted community where more and more motivated buyers are willing to share their clean energy transition journeys. Over 100 companies in CEIA's Renewable Energy Buyers Working Group have expressed their motivation to pursue transitioning to clean energy procurement, and many have taken action to procure clean energy with the support of CEIA. Peer sharing is even more effective with a diverse network of C&I energy buyers.

The success stories and best practices about C&I decarbonization in Vietnam could ultimately be replicated across the country, into wider regional markets, and multiple other industrial sectors present in the region. With the addition of deep collaboration between inter-regional partners, each and every successful case of clean energy procurement has the ability to bring benefits to both the public and private sectors and proves to the energy policy makers that accelerating the energy transition is more urgent than ever.