

## Importing Small Stand Alone Energy Products: Experiences and Recommendations

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### Import – the pros and cons

The issue of importing small stand alone energy products is lately gaining increased importance for GTZ projects. On one hand, there are photovoltaic (PV) products such as **Solar Home Systems** or **Pico PV devices** that in most cases cannot be produced locally or consist of rather low-quality equipment (e.g. widely available Chinese low-cost products) on local markets. On the other hand, several options for imports of **energy-saving cooking stoves** have emerged recently. In particular, stove types from the middle and high price segments are pushing onto the international markets, e.g. the StoveTec stove (<http://www.stovetec.net>) which was developed by the Aprovecho Research Center, or the stoves by Envirofit (<http://www.envirofit.org>) which have already been sold in large numbers all over India. Most of those stoves are manufactured in China or India.



Envirofit stove in India



Pico PV devices in Bolivia

**Rationale** for supporting the introduction of imported energy products into local markets:

- Local production is impossible and/or uneconomical
- High quality standards of imported products vs. low quality on local markets
- Low costs of imported products vs. high local production costs
- Availability of high product quantities (potentials for quick upscaling)
- Manufacturer warranty

However, when planning to import energy products, the following **risks** are to be considered:

- High additional costs (e.g. customs duties, fees), in particular when importing small quantities
- Dependency on manufacturers: supply bottlenecks, price adjustments, warranty
- Imported products are generally unknown by retailers and potential customers

## The role of GTZ

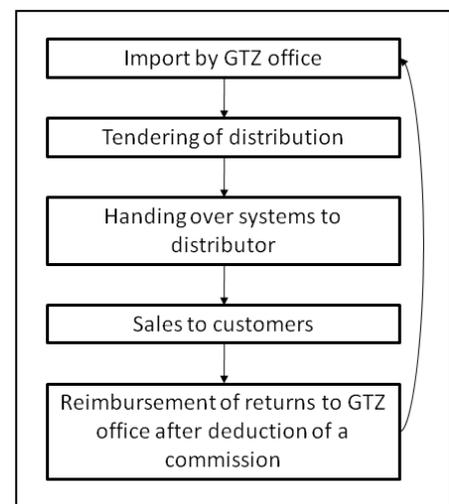
There are no GTZ rules for or against imports of small stand alone energy systems. The benefit of importing has to be weighted for every individual case. Of high importance is in most cases the question of stakeholders involved, i.e. should GTZ take over an active role as an importer? This question is of highest relevance particularly in countries where a first import constitutes a significant barrier, as private companies are not willing to take the risk of importing a whole container of the respective product without being able to estimate its market success.

During the GTZ staff meeting (Mitarbeitertagung) of the section “Water, Energy, and Transport” in summer 2009 issues concerning import of energy products were discussed among colleagues from various GTZ projects and GTZ headquarters. The results can be summarised in the following recommendations:

- In the context of introducing an imported product into local markets, **the whole import-distribution chain shall remain in hands of private stakeholders**; GTZ shall only intervene with **accompanying measures** such as studies/assessments, concept development, cost calculations, quality assurance, monitoring, etc. In doing so all services have to be provided **neutral in terms of effect on competition**.
- To lower financial risks for individual private importers, **partial guarantees** by GTZ can constitute a convenient option.
- In **exceptional cases** – e.g. to carry out market and acceptance tests and identify distribution channels – **small product quantities can be procured through the GTZ country offices**, preferably from more than one of the main market players. As GTZ is indirectly supporting their business expansion, significant discounts shall be agreed upon with the manufacturers.

## The Bolivia case

Most lighting devices in Bolivia rely on fossil fuels or batteries. Pico PV devices may be a valuable and (considering the life cycle) economic alternative for indoor and outdoor lightning, radio and cell phone charging. The market for small PV lighting devices is so far characterised by a multitude of low-quality products mainly traded on informal markets. Market and impact studies are under way, testing different imported devices and respective distribution channels. Assuming a positive result, it doesn't seem likely that the existing potential wholesalers of Pico PV devices will take the financial risk of importing large quantities of high-quality systems in a market yet unexplored by them. To resolve this problem the local GTZ energy project came up with the idea to import the systems through the local GTZ office. Distribution channels are defined by tender or direct invitation to entrepreneurs due to geographic area selection, the devices are sold by the distributor and the returns are reimbursed to the GTZ office after deduction of a commission. As the GTZ office Bolivia can import the systems free of duty, this allows for a “virtual” subsidy of about US\$5 per system.<sup>1</sup> GTZ hence carries the preliminary financing of imports and has a loss of interest at best. As soon as the Pico PV products are well-established in the market, it is planned to hand over the imports to private companies. GTZ will then focus on quality assurance and results-based monitoring.



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<sup>1</sup> Unit price after import with customs duty (example): US\$44.42; after duty free import by GTZ: US\$39.66

### **The BECCAP/ProBEC case**

The BMU-funded Basic Energy Climate Change Adaption Programme (BECCAP) in South Africa is supporting the market introduction of the StoveTec stove, which is manufactured in China. These activities are being undertaken in cooperation with GTZ-ProBEC. In 2009, two containers with 1,200 stoves each were imported to South Africa by the project for the purposes of demonstration, market testing, and identification of potential distribution channels. 1,000 stoves were shipped to the SADC region and 1,400 remained in South Africa. The stoves arrived from China with significant delays: the first container took about six months to arrive while the second container took about 3 months to arrive from the date of order. The stoves arrived safely with no damages.

The project started by identifying the target market, which in this case, was rural un-electrified households, predominately in the poorest provinces. Within these target areas, energy entrepreneurs (meaning entrepreneurs primarily engaged in retailing energy products or services) were identified as it was assumed that they would be willing to adopt the StoveTec so as to offer product alternatives and diversify their product range. To engage them, various marketing tools were developed and 100 stove units offered to them to test the market. The testing process was formalised with a basic MoU stating a few basic principles, namely a) the stoves must be retailed at market prices, b) a realistic cost price was allocated to the stove; the funds from the cost price must be held separately by the entrepreneur and these funds are to be jointly managed (most likely to further the marketing activities or purchasing of additional stoves), and c) GTZ reserved the right to develop the carbon potential. The idea behind this approach was to allow the entrepreneurs to test the market and realise the opportunity without having to import a container of their own.

The approach has been successful as three entrepreneurs (with more expected) are developing the market themselves. A wholesale entrepreneur has ordered a container with 1,200 stoves; these stoves will be retailed at wholesale prices to the smaller entrepreneurs. It is not the project's intension to import any additional stoves; however, the project will still monitor the entrepreneurs' progress and, with the entrepreneurs' support, continue to develop the carbon potential of the stoves.

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