

Guide to Developing a Business Plan for Malaysian Manufacturers in PV (Part I)

May 2008

By

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Notice

- This Business Plan Guide is specifically for manufacturers in Malaysia involved in photovoltaic.
- This Guide is to be used only as reference for developing a business plan in photovoltaic.
- This Guide is not a substitute for engaging the services of a consultant.
- The business plan developed by the user requires information specific to the company, its objectives and markets.
- Pusat Tenaga Malaysia is not responsible or liable for losses incurred from the use of this Guide.

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1. Introduction

1.1 Purpose of a Business Plan

Business Plans for Management

A good business plan is an effective management tool, which enables companies to plan their business expansion or growth in a structured manner. Business plans allow management to think about their business and markets to establish realistic business directions. Business plans do not necessarily have to provide details of each activity but should serve as a guide to commit everyone within a company to work towards a single business direction. Furthermore, business plans allow management to coordinate diverse activities, allocate resources efficiently and used as a tool to track a company's progress towards a business direction.

Business Plans for Financiers

Companies also develop and submit business plans for assessment to financiers (e.g. banks, venture capital companies and government agencies) to obtain financing and grants and other companies to form partnerships, mergers and acquisitions. Such organisations require a business plans to assess the risks and rewards before committing themselves to a company. Large companies who are potential customers or distributors may be reluctant to enter into a business relationship with small growth companies since they may have doubts about the companies' capabilities and objectives. Thus, a good business plan submitted to these large companies helps to dispel such doubts.

1.2 Types of Business Plans

A general business plan is usually a 30-50 page document describing the overall activities of a company's business objective but does not necessarily describe individual activities of the plan in detail. An operational business plan provides detailed information of related activities such as a marketing plan, advertising and promotional plan, human resources plan and manufacturing business plan and may exceed beyond 50 pages. Similarly, a financial management plan contains detailed information about a company's historical and projected finances including balance sheets, cash flow and income as well as operating budget. Another category is a summary business plan, which highlights key points of a business plan usually in 10-15 pages. The business plan described in this document or guide is for a general business plan.

1.3 Tables and Charts in Business Plans

Tables and charts are just as important as the textual write-up in a business plan since they improve reader understanding and appreciation of a company's plan. The advantage of using tables is it simplifies reading a business plan by organising related information. On the other hand, charts complement the textual write-up by illustrating the relationship of key information. Thus, the use of tables and charts are highly recommended in writing a business plan and should be used extensively where relevant.

1.4 Business Plan Template

A **Business Plan Template** accompanies this **Business Plan Guide** and therefore the reader should use this Guide as a reference when using the Template. The arrangement of the Guide and Template are organised in similar sequence into:

- Executive Summary
- Company Overview
- PV Market and Industry
- Business Strategy for PV Business
- Market Strategy for PV Business
- Financial Projection
- Roadmap for PV Business

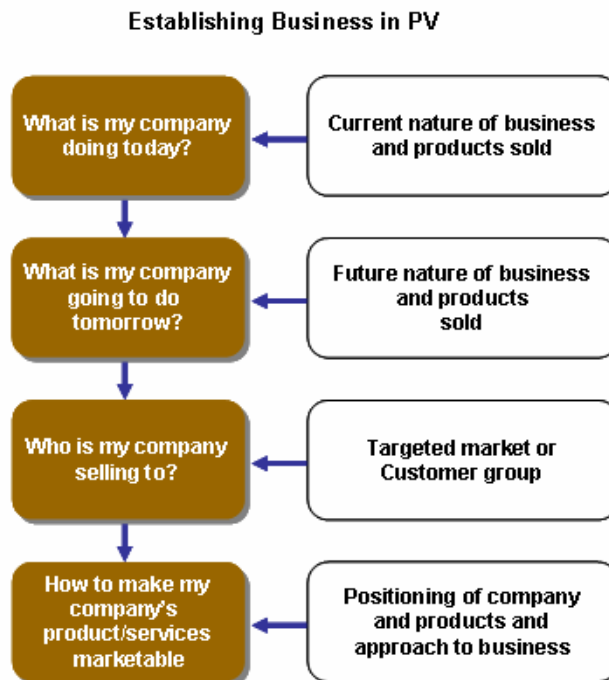
2. Preparing a Business Plan

The manufacturer has to undertake three preparatory activities before it can start to develop a business plan. The preparatory activities include (1) establishing the manufacturer's business in PV, (2) engaging in business and market research and (3) developing the outlines of the business plan. The following describes the preparatory activities.

2.1 Establishing Company's Business in PV

This is the first stage prior to developing a business plan and basically establishes what a company intends to do and market. Thus, the manufacturer should establish:

- Current and future products to market;
- Target markets or customer groups that it intends to sell; and
- Positioning of its business including products.



2.2 Conducting Research

Business plans are only as reliable and effective as the information about the company and its market. Thus, a business plan should fit the current and future scenario of the company's organisation, market and industry for PV. If the business plan does not fit, then the manufacturer faces risk of failure in its business for PV. Thus, research

reduces the risks of venturing into a new business or business expansion. Furthermore, it is important that research should focus on gathering information that is relevant to manufacturer's business intentions.

The manufacturer must be objective when researching about its own company and the market whether they have a negative or positive impact on the company. An objective business plan ensures business objectives are realistic and achievable. Potential sources of information include trade or business magazines (e.g. Photon International); websites including online news services (e.g. Google News, Yahoo News and Yahoo Finance), company websites and trade related websites (e.g. Renewable Energy Access, Solar Plaza and European Photovoltaic Industry Association); attending seminars and trade exhibitions; and discussions with other companies and organisations involved in PV.

The following table briefly describes the common type of information sought in research before developing a business plan. The manufacturer should research from a global perspective if a considerable proportion of the manufacture is for exports.

Information sought for Business and Market Research

Areas of Research	Key Information Sought
Research about the manufacturer's own company	<ul style="list-style-type: none">■ Nature of business and business directions■ Location of business including manufacturing■ Key management involved in PV business■ Organisational structure and workforce■ Current and future alliances and partners■ Company strengths and weaknesses■ Market opportunities and threats to business■ Major and type of financing sought

Information sought for Business and Market Research

Areas of Research	Key Information Sought
Research on the manufacturer's products	<ul style="list-style-type: none"> ■ Products manufactured and marketed ■ Technology of the PV product ■ Technology used in manufacturing ■ Breakthrough in technology ■ In-house technology and technology partners ■ Key materials, costs and their suppliers ■ Key markets or target customer groups ■ Marketing vehicles for PV business ■ Advertising and promotion ■ Pricing strategy ■ Patenting, licensing and trademark (if any)
Research on the market and industry from a global prospective	<ul style="list-style-type: none"> ■ Description of target markets ■ Market potential and trends ■ Price trends of PV materials ■ Competitors (players) in the market ■ Competing PV materials ■ Factors affecting the industry and market: <ul style="list-style-type: none"> ○ Within PV industry ○ Outside PV industry ■ Government regulations and programmes ■ Concerns in the PV market

2.3 Outlining the Business Plan

Once the manufacturer has established its business intentions in PV and engaged in research, the next step is to outline the company's thoughts for the business plan. Outlining involves putting all the key or important points into various categories or areas of the business plan as illustrated in the following diagram. This ensures not only all the key points have been included under each area but also ensures key points are plausible and logical. This ensures reader confidence in the business plan especially to potential financiers and saves time rewriting a business plan.



2.4 Documentation

Manufacturers are usually required to include certain documents into a business plan when seeking financing from external sources such as banks and investors and may be required from potential business partners. Type of documents to include depends on the individual financier’s or partner’s requirements but are usually proof of the company’s existent as a legal entity and those related to financial matters. Possible documents required include:

- Articles of Association and Certificate of Registration issued by the Companies Commission Malaysia (CCM);
- Latest audited annual report submitted annually to the Companies Commission Malaysia;
- Financial statements, letter of credit facilities and fixed deposits from banks;
- Award of contracts including tenders, purchase orders and supply agreements with customers; and
- Licensing agreements, distribution rights and patents owned by the company.

These documents are usually incorporated at the end of the business plan but very much depends of the financier’s or partner’s instructions. If available, the manufacturer should incorporate relevant photographs such as proposed factory site, machineries, prototypes and suppliers’ technical literatures to enhance the business plan.

3. Key Areas of a Business Plan

3.1 Executive Summary

An executive summary should be a 2-3 page snapshot about the (1) manufacturer, (2) products intended for manufacture and its technology, (3) product and manufacturing technology (4) markets for the manufactured product, (4) marketing strategy and (5) a five-year financial projection of the business. The executive summary is the first part of the business plan that is normally read but written only after the rest of the business plan has been completed. It is important to incorporate only key information of interest into the executive summary. Information of interest include company strengths supporting the PV business, competitive advantage, strengths of technologies used, market potential, marketing and major markets, revenue and profitability growth of the PV business.

When read by readers outside the company such as potential financiers, the purpose of the executive summary is to generate their interest about the manufacturer's business and intentions. Potential financiers such as banks and venture capital companies regularly receive business plans competing for their attention. Thus, the objective of the executive summary here is to gain their attention and subsequently interest to read the main body of the business plan.

For potential partners in large companies, the executive summary serves board members and senior directors who need to be aware of the manufacturer's business plans. Furthermore, board members and senior directors in large companies receive numerous reports regularly and often do not read reports from the beginning to the end. Thus, the objective of the executive summary is to gain their attention about the manufacturer's business plan and encourage further reading.

3.2 Company Overview

Company's Business Intentions for PV

This section of the business plan is about a page summarising the manufacturer's current business and business intentions in PV manufacturing. The objective of this section is to provide the reader an understanding on the company's thoughts and objectives for PV before reading further. This allows the reader to appreciate the decisions made by the manufacturer to develop its PV business.

Important information for this section of the business plan includes:

- The current nature of the manufacturer's business
- The stage of involvement in PV
- Type of PV material intended for manufacture
- Plans in manufacturing
- Opportunities for the manufacturer
- Current R&D activities and technology possessed in PV if any
- Reasons for entering into PV manufacturing
- Motivating factors for entering into PV manufacturing
- Manufacturer's potential or advantage in PV manufacturing
- Experiences the company can leverage to develop its PV business

About the Company

This section of the business plan contains a synopsis or background about the manufacturer including its capabilities and usually 2-3 pages. Anyone evaluating or assessing a company would need a prior understanding of the company's history and current status to appreciate the business direction undertaken by the manufacturer.

Important information for this section of the business plan includes:

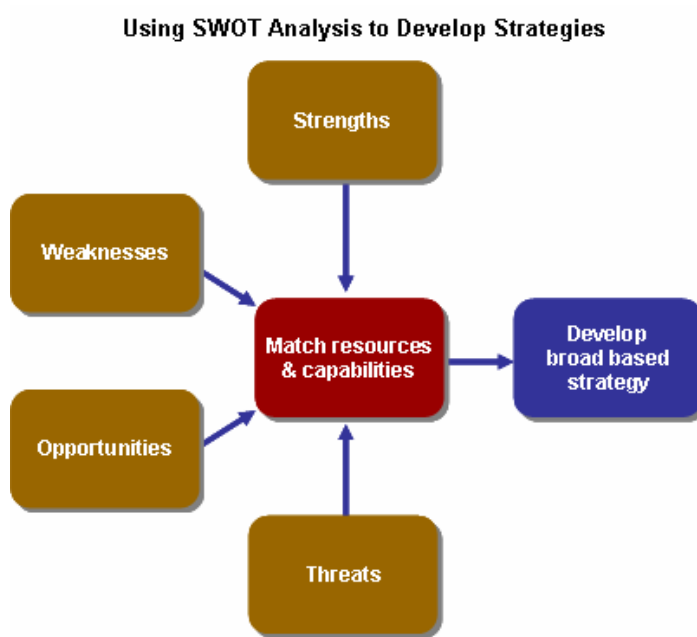
- Years in business, paid-up capital, revenue and major shareholders
- Key senior managers and their background: -
 - Academic qualifications
 - Responsibilities
 - Work experience related to PV
- Company's workforce
- Current manufacturing activities

SWOT Analysis

A SWOT (strengths, weaknesses, opportunities and threats) analysis is a management tool used to analyse factors that are favourable and unfavourable to a company. Henceforth, it has become a useful tool in business planning to analyse favourable and unfavourable factors that can affect a company's business objectives. A SWOT analysis analyses a company's:

- Internal **strengths** (S) **favourable** to a company e.g. possession of technology in PV; manufacturing experience applicable to PV manufacturing; strengths in R&D; wide marketing or distribution channel; innovative product that has wide applications; and alliances with technology partners.
- Internal **weaknesses** (W) **unfavourable** to a company e.g. unable to differentiated product thus product becoming a commodity; lack of experience in manufacturing; lack or insufficient tangible asset to obtain financing; lack of brand recognition; and lack of an established marketing/distribution channel or customer base.
- External **opportunities** (O) **favourable** to a company e.g. large and growing market for the PV product; emerging geographical markets for PV; emerging new applications for the PV product; entering into a market left vacant by a competitor; growing market segment for PV that does not depend on government financial support.
- External **threats** (T) that are **unfavourable** to the company e.g. entering a market with competitors manufacturing similar PV products; production overcapacity in the industry leading to declining prices of PV; competition from PV materials with higher conversion efficiency; and unfavourable government policies towards PV;

When developing a SWOT analysis, the manufacturer should be objective about the company's strengths, weaknesses, opportunities and threats. Too often companies exaggerate their strengths and opportunities and downplay their weaknesses and threats. Thus, an objective SWOT analysis ensures a credible and achievable business plan. The manufacturer should conduct the SWOT analysis from a global perspective if a considerable proportion of the manufacture is destined for the export markets.



A SWOT matrix is used to developed broad strategies based on a company’s SWOT analysis. Based on the SWOT matrix, the manufacturer should not target markets simply because they are lucrative but target markets, which it has a better chance of succeeding. The manufacturer achieves this by selecting markets, which it can leverage on its strengths. The following table describes the strategies to follow based on the SWOT matrix.

Strategies based on SWOT Analysis

	Strengths	Weaknesses
Opportunities	Pursue business strategies based on internal strengths	Overcome weaknesses to pursue opportunities
Threats	Use internal strengths to reduce the impact of the threats	The “Achilles Heel” and a defensive strategy undertaken

Mission Statement and Concept of PV Business

In this section the manufacturer should propose the company’s mission statement and describe its approach and driving force to enter into PV manufacturing. This section is usually 2-3 paragraphs with an accompanying single sentence stating the company’s mission statement. It is important that the manufacturer’s mission statement and its approach to the PV business align with realistic growth opportunities in PV.

Important information for this section of the business plan includes:

- Purpose of the company's business in PV i.e. mission statement
- Overall approach to the PV business
- Uniqueness or approach of the manufacturing activity
- Uniqueness of the PV technology
- Markets or market potential of the manufacturer's products

3.3 Research on PV Market and Industry

The main objective of research is to identify potential markets or customer groups for the manufacturer's products as well as market factors that could affect its business. Manufacturers seeking financing would have to convince financiers such as banks and investors that a market exists for their products. This section of the business plan is 4-10 pages depending on the complexity of the manufacturer's market and industry. The manufacturer should conduct research from a global perspective if a considerable proportion of the manufacture is destined for the export markets.

Important information for this section of the business plan includes:

- Overall market for PV including market size and trends
- Major geographical markets for PV
- Market for manufacturer's PV including market size and trends
- Technological and manufacturing advantage of the manufacturer's PV
- Opportunities in application for the manufacturer's PV
- Factors driving the manufacturer's market
- Trends in prices of PV including PV from the manufacturer
- Competition in the manufacturer's market for PV
- Government programmes supporting or hindering growth
- Threats to the manufacturer's market for PV

3.4 Business Strategy for PV Business

Financing

The manufacturer should outline its financing plan in 1-2 pages if seeking long-term financing from external sources such as loans from banks, venture capital and purchase of shares by investors. Refer to the Appendix (Section 4) for further information about financing for manufacturing in PV. Mention grants if the manufacturer is seeking such financing from government agencies and usually offered for R&D. For financing above RM10 million, the manufacturer usually would seek financing from more than one source.

Important information for this section of the business plan includes:

- The amount of financing sought and its purpose
- Type of financing (loans, venture capital, etc.) sought
- Tangible assets pledge to financiers
- Intangible assets to support financing such as supply agreements

Location of the PV Business

Business location is where the manufacturer physically conducts its business, which may differ from its registered address. This includes the manufacturing plant, head office, branch offices, R&D centre and warehouse including those outside Malaysia if any. This section of the business plan is usually described in 1-2 pages.

Important information for this section of the business plan includes:

- Physical location(s) of the manufacturer's business
- Type of activities conducted at the location(s)
- Current stage of manufacturing e.g. R&D, prototype or commercialisation
- Advantage of operating from the location(s)

Management and Organisation

This section describes the manufacturer's organisation including how it is organised and managed. This section is usually 2-3 pages depending on the size of the company, various activities engaged by the company's workforce and any significant issues affecting the company's management. Include an organisational chart for the benefit

of the readers (especially potential financiers, investors and business partners) in order to appreciate the manufacturer's organisational set-up.

Important information for this section of the business plan includes:

- Company's organisational set-up including organisational chart
- Key managers driving the PV business including their roles
- Current workforce and their stage of involvement in PV manufacturing
- Recruitment plan including categories of workforce for the next five years
- Plans to improve the quality of the workforce e.g. through training

Technology for Manufacturing PV

This section outlines the PV material to manufacture and the manufacturing process in 1-2 pages. The manufacturer should indicate if it developed the technology in-house and if the case briefly explain how it came about to develop the technology.

Important information for this section of the business plan includes:

- PV material to be manufactured
- Advantage of the PV material e.g. lower cost and flexible substrate
- Principles of the manufacturing process
- Advantage of the process e.g. mass production and shorter process
- Areas of improvements in manufacturing and product technology

Strategic Alliances

A strategic alliance is an arrangement between two or more companies to collaborate to achieve a common objective and usually described in 1-2 pages. Strategic alliances can take many forms and include forming a joint-venture company; technical collaboration; outsourcing work; supply agreements with suppliers and distributors; and joint marketing.

Important information for this section of the business plan includes:

- Supplier of manufacturing technology and key raw materials for PV
- Technical collaboration such as R&D with universities

- Alliances with marketing partners such as distributors and sales agents
- Future alliances to develop PV business
- How current and future alliances would be used to develop the business

3.5 Market Strategy for PV Business

Product Positioning and Offerings

The business plan should briefly describe the manufacturer's product and its applications in PV in 2-3 paragraphs. It is not necessary to describe in detail but the manufacturer should explain how its product fills the need of the PV market. This section should also include a single sentence statement describing the manufacturer's positioning of its business. Positioning is the image created by the manufacturer on how it wants to be perceived by the market and to differentiate itself from the competitors. This perception is created through advertising and promotional activities, product offerings and quality of the manufacturer's services.

Important information for this section of the business plan includes:

- Unique selling proposition including positioning statement
- PV products offered or to be developed
- Applications for the PV product
- Product's differentiating factor compared to other PV products
- Cost competitiveness to manufacture the product

Key Markets

This section describes the target markets for the manufacturer's products and services in 2-3 pages. The target markets should be based on research of the market and SWOT matrix. For financiers, it helps to justify that the manufacturer has a potential market for its products. The markets can be viewed in various ways such as by targeted customers, customer groups, geographical markets; and application of the PV product. Also identify and target any emerging or niche markets that have strong growth potential for the manufacturer's product. The manufacturer should identify the key markets from a global perspective if a considerable proportion of the manufacture is destined for the export markets.

Important information for this section of the business plan includes:

- Market segments for the products
- Future markets for the products
- Use of the products in the target market segments
- The potential of the market segments identified
- Factors in the identified markets that would affect demand

Sales and Distribution Strategy

In 2-3 pages, the next step to describe is the sales strategy describing how the products and services will be sold to reach the customers. The manufacturer should describe the sales and distribution strategy from a global perspective if a considerable proportion of the manufacture is destined for the export markets.

- Most importantly is identifying the distribution channel that best fits the manufacturer's business strategy. Thus, the manufacturer may have more than one distribution channel serving different market segments such geographical markets and customer groups. Distribution channels include direct sales to the customers (e.g. users, installers, other manufacturers and fabricators purchasing the PV product) and appointing distributors and commission agents to market the PV product.
- The manufacturer should consider complementing other sales strategies to develop a competitive edge. These include after sales service, efficient handling of sales enquiries, ensuring product quality, warranties and technical support to the customers, distributors and commission agents.

Important information for this section of the business plan includes:

- Distribution channels for the target markets
- Management of the distribution channels
- Advantage of the using the identified distribution channels
- Establishment of overseas marketing offices if any
- Products marketed through the distribution channels
- Identifying other complementing sales strategies

Promotional Strategy

This section is usually 2-3 pages and the purpose of advertising and promotion is to generate awareness about a company and its products with the objective to generate interest and eventually sales. The manufacturer should focus on key messages to position its business and products to its target markets. These include the benefits of its products and its services to the customers; applications for the product; cost competitiveness of the product; company and manufacturing strengths; and superiority of its technology.

Examples of advertising and promotional activities include a well-designed and informative website; advertising in trade magazines; directory and website listing in trade related websites; company and product literatures; direct presentations to potential customers; participating in trade exhibitions; presentations in seminars; and engage in press releases. The manufacturer should not prematurely promote new products before they are available since it creates customer disappointment and gives time for the competitors to react.

Advertising and promotional activities is a cost to the manufacturer and therefore should consider the best options available within their budget. The manufacturer should take advantage of Malaysia External Trade Development Corporation (MATRADE), which assists Malaysian companies promote their exports overseas by organising and leading overseas trade missions. The manufacturer should describe the promotional strategy from a global perspective if a considerable proportion of the manufacture is destined for the export markets.

Important information for this section of the business plan includes:

- Category of advertising and promotional undertaken
- Description of activities under each category

Pricing Strategy

The manufacturer should state the pricing strategy that it intends to undertake i.e. sell at a premium if the product is unique or has little or no competition; at competitive prices if the product has many market players; or discounts to gain market entry as a new market player. The manufacturer should assess factors that influence prices of PV so that prices of the manufacturer's product are acceptable to the market. Examples of such assessments include world production capacity (if supply exceeds demand, prices are on a declining trend and vice versa), future price trends in the market;

number of competitors in the market; and pricing strategy engaged by the competitors.

Important information for this section of the business plan includes:

- Type of pricing strategy i.e. sell at premium or competitive pricing
- Pricing strategy for different geographical market
- Financial incentives offered to customers and distributors such as:-
 - Discounts for volume and cash purchase
 - Year-end rebates for achieving targeted purchase
 - Special pricing for multi-year supply
 - Special discounts for promotional offers
 - Discounts for product bundling
 - Discounts for major tenders

3.6 Financial Projection

Financial business plans contain detailed information about past financial performance and financial projections. Information incorporated into financial business plans includes historical and projected balance sheet, cash flow projections and income statements. Other important information includes desired financing (e.g. leasing, bank loans, venture capital and equity) and use of the funds (e.g. working capital, capital expenditure and repayment of debt). Due to the complexity of a financial business plan, the manufacturer may engage the services of a qualified professional.

However, financial projections in general business plans use a simplified projection of income that can be done in-house. However, it is important that the financial projection is in line with market realities. The objective here is to provide the reader (including financiers, investors and company's management) an overview of the financial feasibility of the business. The key areas of a financial projection include the expected (1) revenue, (2) expenditure and subsequent (3) income. The projected revenue and expenditure should be supported by plausible assumptions.

3.7 Roadmap for PV Business

A roadmap is a schedule of key activities of the business plan i.e. critical to the company's success. A roadmap outlines the steps undertaken by the company to develop the business and usually for a period of three to five years. The roadmap also serves as a checklist of major activities and an indication to potential financiers and business partners of the company's ability to plan its development. The roadmap is organised by period and can be by year, quarter or by month. Most general business plans are organised by year while operational business plans are generally organised by quarter or by month.

4. Appendix

The following table are websites for information and contact details to approach companies to finance business venture in PV.

Information and Contact Details for Financing

Website	Type of Financiers	Region/ Country	URL
Malaysian Venture Capital and Private Equity Association	Venture capital	Malaysia	http://www.mvca.org.my
Association of Banks in Malaysia	Banks	Malaysia	http://www.abm.org.my
Exim Bank	Import Export	Malaysia	http://www.exim.com.my
Association of Offshore Banks	Offshore banks	Malaysia	http://www.aob-labuan.com
Bursa Malaysia	Public listed companies	Malaysia	http://www.klse.com.my
National Venture Capital Association	Venture capital	United States	http://www.nvca.org
Solar Energy Industries Association	PV companies	United States	http://www.seia.org
European Venture Capital and Private Equity Association	Venture capital	Europe	http://www.evca.com
European Photovoltaic Industry Association	PV companies	Europe	http://www.epia.org

The following table are websites for information and contact details of foreign venture capital companies that have invested companies involved in PV.

Foreign Venture Capital Companies that have Invested in PV

Company	Country	URL
General Electric Equity	United States	http://www.geequity.com
New Enterprise Associates	United States	http://www.nea.com
Goldman Sachs Group	United States	http://www2.goldmansachs.com/
Nth Power	United States	http://www.nthpower.com
Chevron Technology Ven.	United States	http://technologyventures.chevron.com
Good Energies	United Kingdom	http://www.goodenergies.com
3i	United Kingdom	http://www.3i.com
BASF Venture Capital	Germany	http://www2.basf.de/en/venturecapital