

Updated Version 11/08
ITC Effects Included

Entering the US Photovoltaic Market

A Study of its Characteristics and Challenges

Management Summary

EuPD Research

Bonn, December 2008

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- B. Selected Survey Results**
- C. Overview of Contents of the Study**
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A. Background and Approach

A.1. Background

Be the first to get a comprehensive picture of the American photovoltaic market – from an expert's point of view.

There is good evidence that the US photovoltaic market will be one of the key future markets for photovoltaics. However, up to now, the market has had to struggle with erratic political support for renewable energies, as well as highly complex promotion structures and strong fragmentation due to the 50 separate state markets.

The new study by EuPD Research, based on a quantitative inquiry of around 130 US PV companies, provides all the relevant information on the American market in a concise and comprehensive way to help you optimize your business activities despite these difficulties.

In the analysis, EuPD Research draws upon knowledge gained in more than 200 research projects in the field of photovoltaics. Our experience in the world's biggest PV market Germany and the other relevant international markets – such as Spain, Italy, France and Japan – helps us to better understand and evaluate the developments in one of the world's most promising solar markets. Thus, you will receive an objective, overall picture based on solid, quantitative data that is created by the most experienced market research institute in the field of photovoltaics worldwide.

A.1. Objectives

In the summer of 2008, EuPD Research conducted a broad primary survey among 113 US photovoltaic system integrators, distributors and installation companies. The objective of the analysis was to deliver comprehensive knowledge of the framework conditions on the US American photovoltaic market as a basis for companies that intend to become active or extend their business activities in the USA. This presentation provides a summary of the most important results.

The presentation contains information on the following aspects:

- PESTE analysis (**P**olitical, **E**conomical, **S**ocial, **T**echnological and **E**nvironmental framework conditions)
- Identification of the states in the USA with the biggest current and future potential
- Information on the American PV industry
- Distribution structures
- Market segments and their potential
- Product and service offers
- Price level and development
- Factors that promote and hinder market growth
- Market forecast

The premium version contains extended information regarding all the above named issues as well as a special highlighting of electric utilities' role in the market and an analysis of the most common financing model on the market, the Power Purchase Agreements.

A.3. Research Design

The analysis is based on a broad primary survey of 113 market players in the US market as well as further secondary sources. In order to adjust the study to take into account the new situation with the extension of the main national promotion instrument – the tax credit – the study was updated with the help of a survey conducted among market participants and experts such as the Solar Electric Power Association (SEPA) in October 2008.

Primary Data

- Quantitative survey among system integrators/distributors/project developers and installers: 113 completed questionnaires
- Qualitative face-to-face interviews among electric companies, investment companies and market experts for additional information as well as validation of results (approx. 20 interviews)

Method

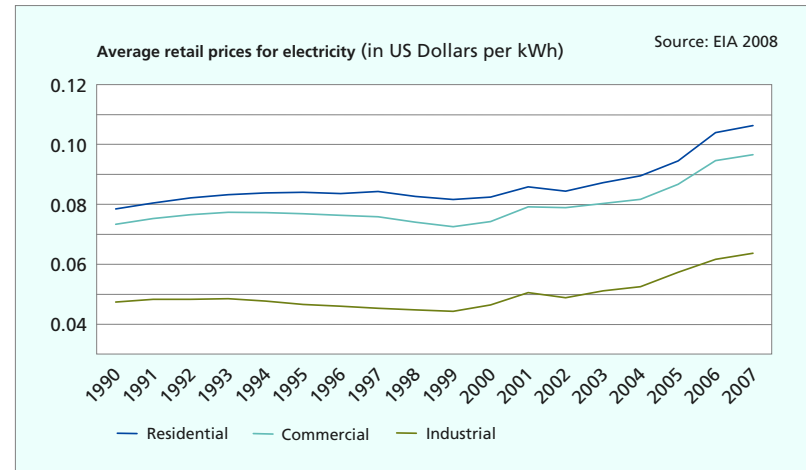
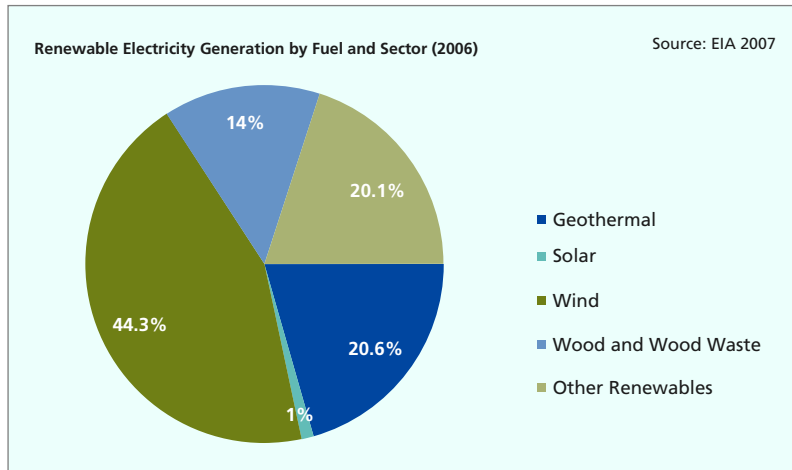
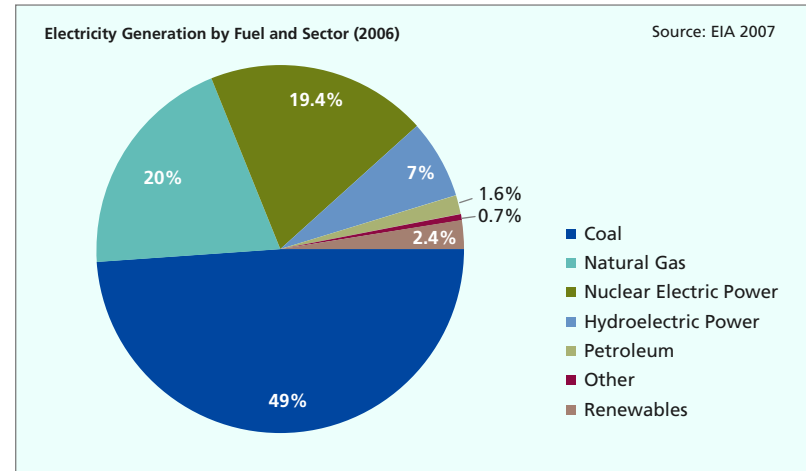
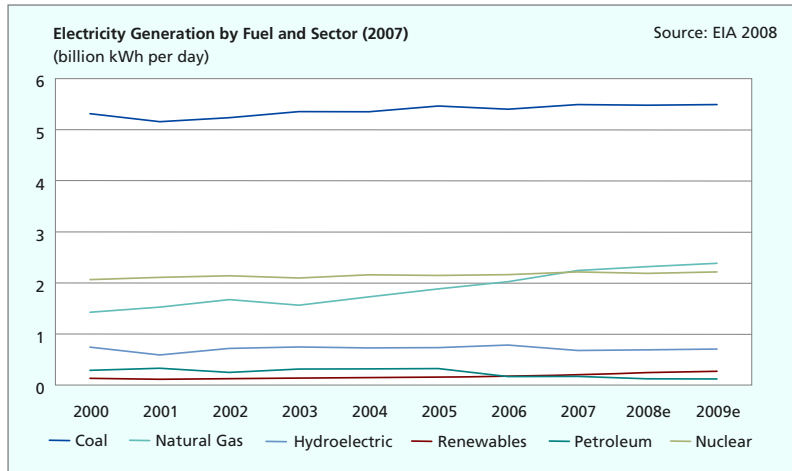
- Partly-standardized telephone interviews via CATI, field time June and July 2008
- Qualitative telephone as well as face-to-face interviews

Additional Secondary Data

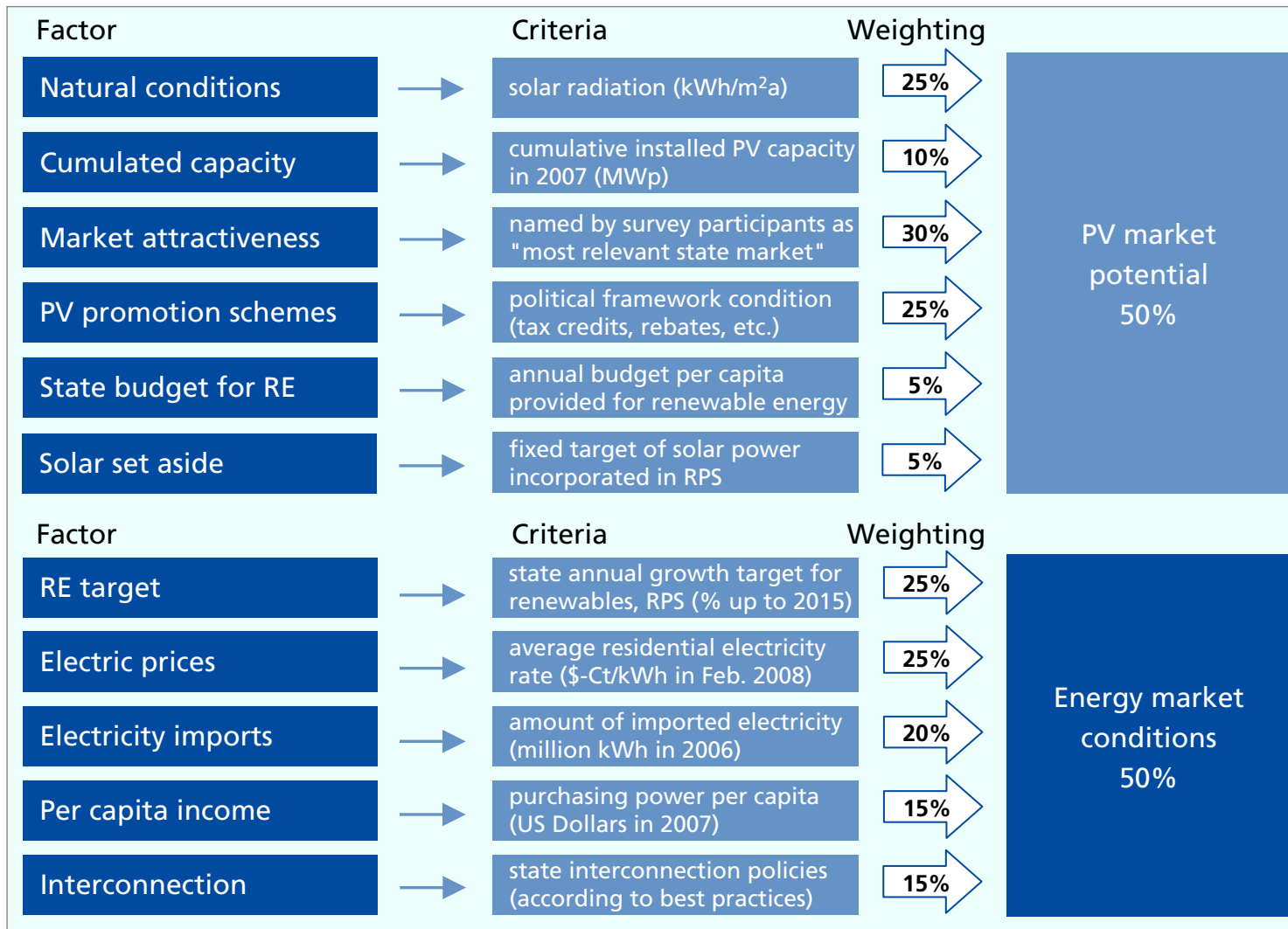
- Internet and market studies
- Long-standing EuPD Research Database
- International conferences and presentations

B. Selected Survey Results

B.1. Analysis of Framework Conditions for PV: Energy Facts & Figures



B.2. State Market Rating: Model



In order to analyze and compare the surveyed state markets, a rating model has been developed.

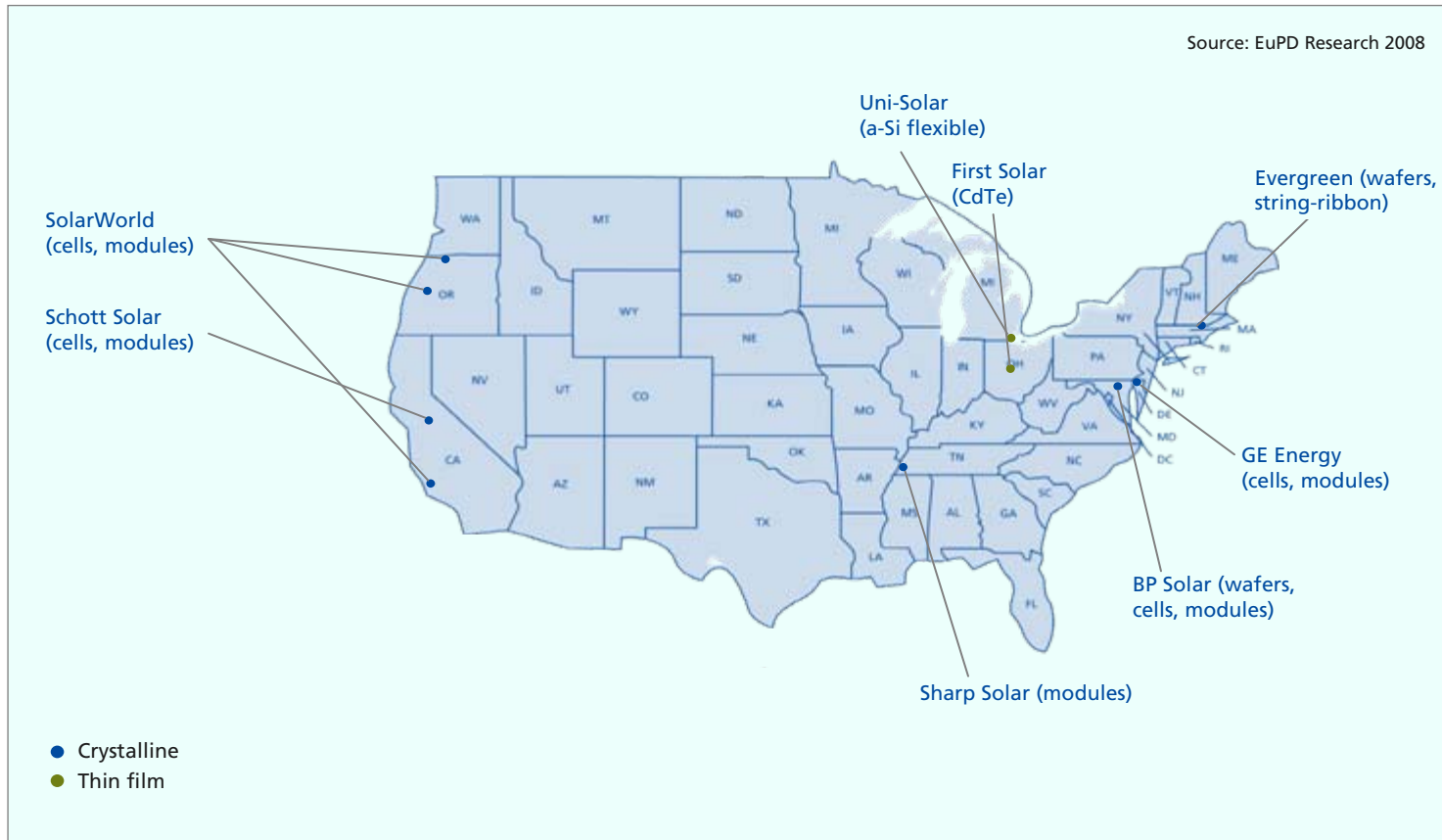
It allows a sound analysis through the consideration of both quantitative and qualitative aspects.

For the scoring, eleven important factors were identified. Each factor is made up of specific criteria.

All factors and the respective criteria are weighted according to their importance.

B.3. Market Players: The Biggest Producers in the US

Crystalline cell/module and thin film producers with a production >10 MW in 2007



In 2007, only eight companies produced more than ten MW of crystalline and thin film cells or modules.

However, a considerable number of companies are in the starting blocks.

The study presents production figures of the American PV industry up to 2010 (Source: EuPD PV Heaven).

B.4. Market Players: Sold Capacities

Average sold and installed capacities in the US by the survey participants in 2007 and 2008 (only companies making specifications for both years)



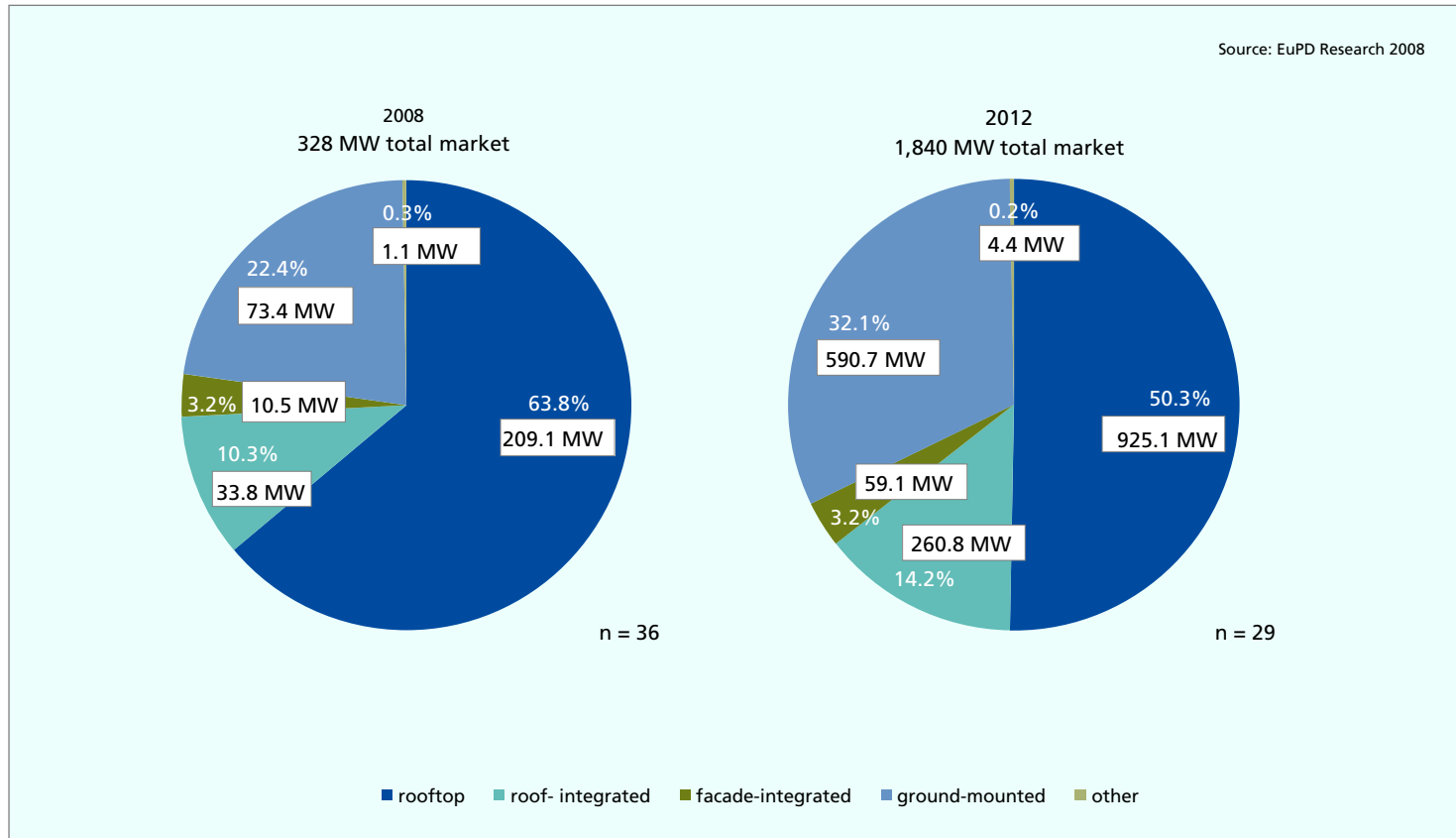
The quantitative data is founded on a survey among 113 US system integrators, wholesalers and installation companies.

When comparing the specifications of those survey participants specifying values for their solar capacities in 2007 and 2008, a clear growth trend emerges compared to 2007.

On average, the sales volume is expected to increase 62.2 percent, and the installation volume, 72.4 percent.

B.5. Market Segmentation: System Types

Estimated share of system types for the total US market for the years 2008 and 2012

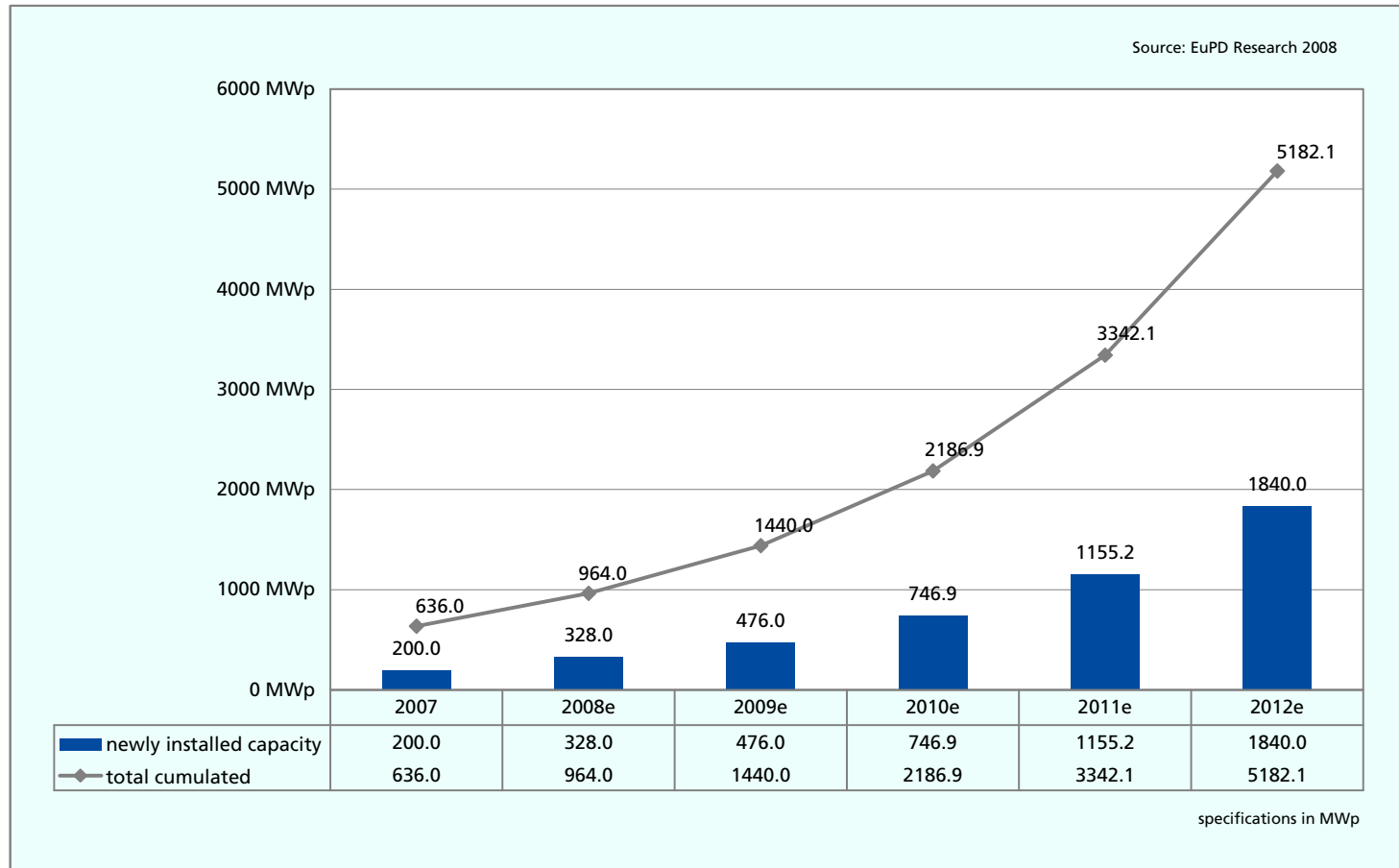


The US market is clearly dominated by rooftop systems – as reported by the market participants. Ground-mounted plants are estimated to have a share of 22.4 percent.

This share is expected to increase to 32.1 percent in 2012.

B.7. Market Development: Forecast US

Market forecast

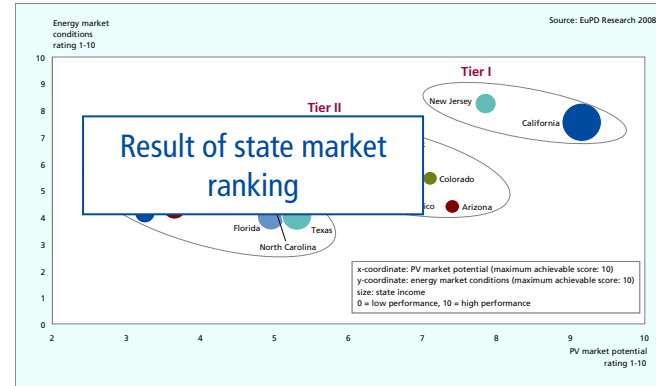
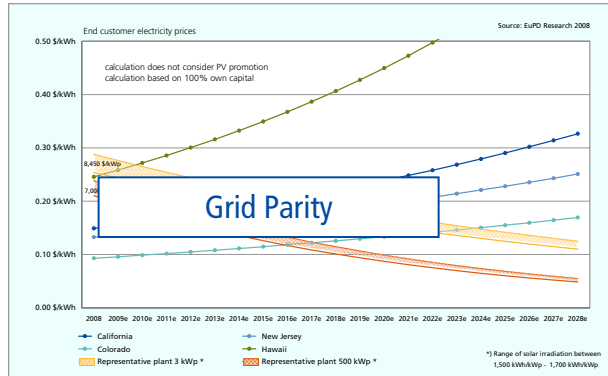


Following the introduction of the new ITC on October 3rd, 2008, the market participants generally expect accelerated market growth. This is the result of a quick survey EuPD conducted shortly after the law was passed.

A few interviewees also stated their doubts that stronger market growth will take place. In the short term, the financial crisis was named as a reason. For the time up to 2012, some participants regarded the outcome of the presidential election as an important factor.

C. Overview of Contents of the Study

c.1. Framework Conditions and State Market Ranking: Further Analyses



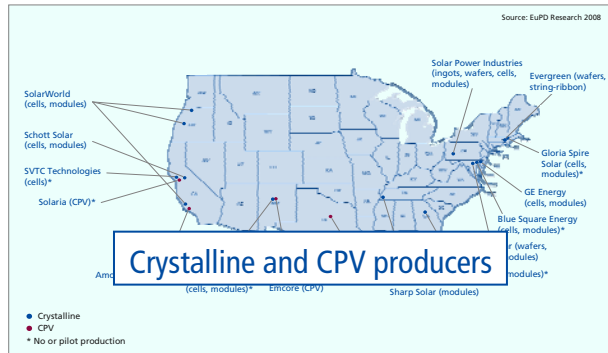
Research topics regarding framework conditions included in the basic version

- Macroeconomic environment: political, economical, social, technological facts, business indicators such as inflation rate and bankruptcy filings, energy facts & figures
- Promotion for photovoltaics in the USA (not for individual states)
- Solar irradiation
- Electricity price development

Research topics regarding state market ranking included in the basic version

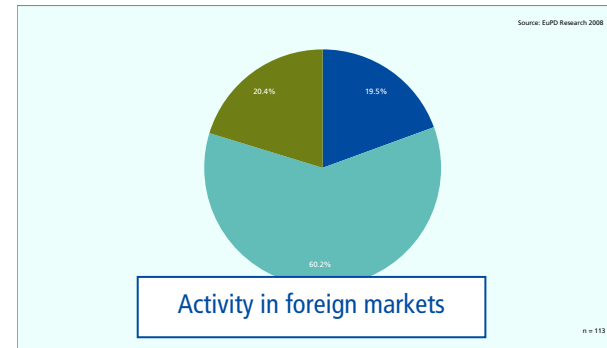
- Detailed analysis of all 50 US states regarding their potential for PV
- Ranking of states according to this potential

c.1. PV Industry and Market Players: Further Analyses



Research topics regarding PV industry included in the basic version

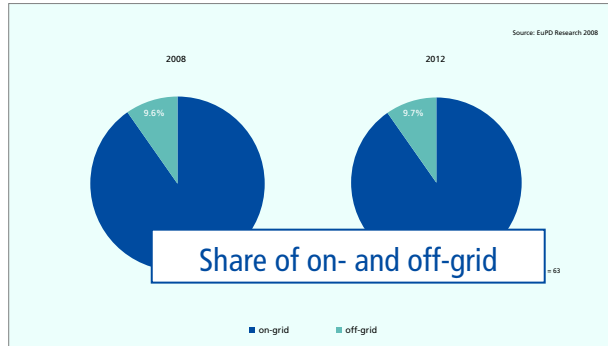
- Overview of production facilities in the field of thin film, crystalline and CPV
- Source: EuPD PV Heaven



Research topics regarding market players included in the basic version

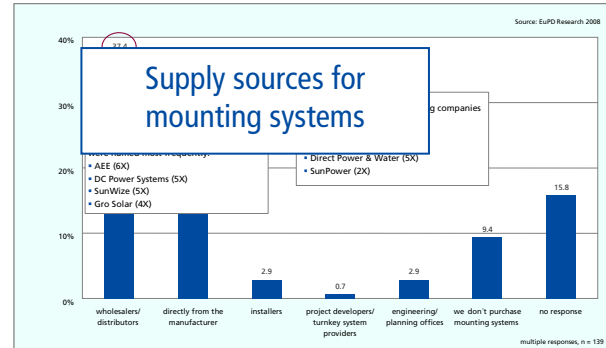
- Types of companies
- Business activities
- Turnover development
- Number of employees
- Duration of activity in PV
- Range of activity

c.1. Market Segments and Distribution: Further Analyses



Research topics regarding market segments included in the basic version

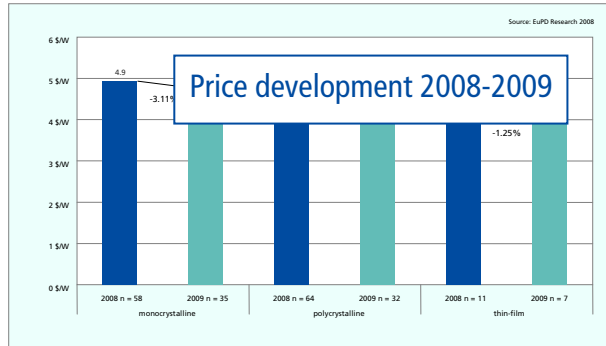
- Market shares of end customer groups, technologies, system types and system sizes in 2008 and 2012 for the entire US market
- Share of different thin film technologies
- Relevant off-grid segments
- Share of new and old buildings



Research topics regarding distribution included in the basic version

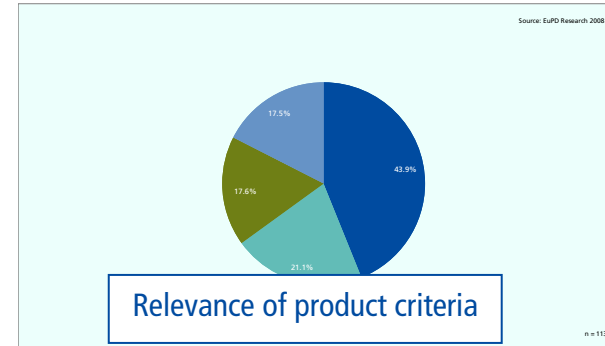
- Offered module brands
- Cooperation partners
- Supply sources for modules, inverters and mounting systems
- Delivery times
- Evaluation of availability
- Customers

c.1. Prices, Products and Services: Further Analyses



Research topics regarding prices and price development included in the basic version

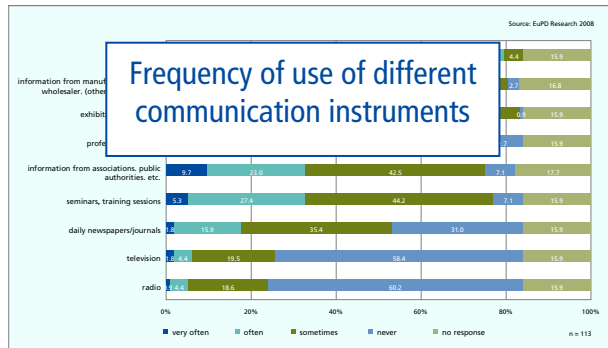
- Price development 2008 to 2009 for modules and system according to sizes



Research topics regarding products and services included in the basic version

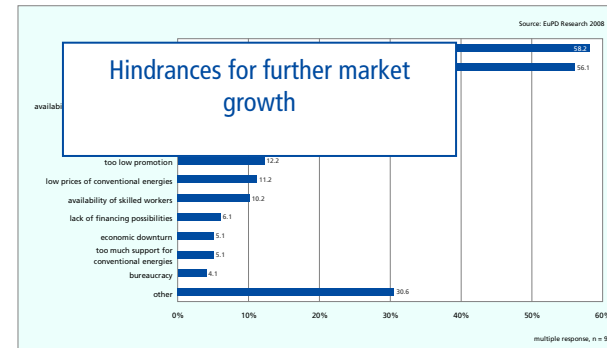
- Offered module brands
- Share of brands in total sales
- Share of complete systems in sales
- Relevance of product criteria for the choice of modules
- Services on offer

c.1. Communication, Future Market Development: Further Analyses



Research topics regarding communication included in the basic version

- Used information sources (mean values)
- Frequency of use



Research topics regarding future market development included in the basic version

- Drivers and hindrances for further market growth
- Expected changes in promotion on the national and state level
- Market forecast for the US market

D. At a Glance: Entering the US Photovoltaic Market –
A Study of its Characteristics and Challenges

D.1. Unique Selling Proposition

The basic version of the EuPD Research study on the US photovoltaic market delivers...

- assessments on the US photovoltaic market with a long-standing research background in the photovoltaic industry of EuPD Research
- reliable evidence on the basis of a quantitative survey with 113 companies
- analysis of all aspects that are relevant for acting successfully the market
 - framework conditions
 - conditions in the different state markets
 - existing industry
 - relevant market segments
 - distribution channels
 - prices and price development
 - products and services on offer
 - product requirements
 - communication instruments
 - future market development.

Product Description

Content of the study package “Entering the US Photovoltaic Market – A Study of its Characteristics and Challenges (Basic Version)”

- Chart report of more than 100 pages (bounded)
- Charts as pdf file (CD-ROM)
- Workshop at your company’s premises with two EuPD Research analysts if required

D.2. Contents of the Study

A. Introduction

1. Objectives
2. Research Design

B. Analysis of Framework Conditions for PV (PESTE Analysis)

1. Economic Data
2. US Energy Policy
3. Promotion for Photovoltaics

C. Potential for PV in the States

D. The PV Industry in the US

E. Empirical Market Analysis

1. Sample Description
2. Market Segments
3. Distribution
4. Prices
5. Product and Service Policy
6. Communication Instruments

F. Future Market Development

1. Growth Drivers and Hindrances
2. Market Forecast

Editorial

E. Contact Information

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