



## StoragePrice Tool

Quarterly panel research to measure the price of PV storage on the basis of a standardized survey of installers in Germany

# Agenda

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## I. Background: Competitive Pricing

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Pricing policy plays an important role for the future progress of PV storage systems in Germany. Over the last few years, prices for storage systems have decreased by up to 10% a year. This pricing policy has an inevitably positive effect on the demand.

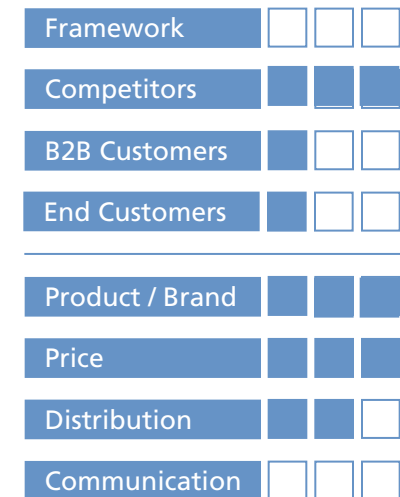
These tendencies can be registered from individual statements of market participants; however, there is no quantitative data available regarding the development. Furthermore, it is not evident if this concerns storage systems from renowned manufacturers or simply no-name products. This storage price tool will offer the opportunity to display pricing trends on the basis of an analysis of storage brands- and technologies. The acquired results can easily be imported into own presentations.

## II. Benefits of the Product for Your Company

The "StoragePrice Tool" will provide your company with decisive competitive advantages. Selected benefits are that you can...

- get an overview of storage prices for installers.
- compare storage prices for the different technologies, monitor their development and understand the reasons why.
- appraise the market situation and potential of various markets using the expected rate of return for the end customer.

The intensity, with which the topic is dealt with in the product:\*



\* low medium to high very high (The product does not deal with the topic.)

### III. Objective

The database supports itself on:

- A panel of installers, which can provide reliable statements about price development owing to their product portfolios and sales volume

The aim of this tool is to:

- Display collected specific information about the price development of storage solutions in Germany for both Lithium and Lead-acid technologies

Major benefits enabled by this tool are:

- Benchmarking your pricing policy and improving your sales network with information on storage systems in the German market
- Detecting differences in brand and technology and adapting your strategies accordingly

## IV. Method

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### Type of survey:

- Panel survey (fixed groups of survey participants)
- Questionnaire lasts approximately 10 minutes

### Method and Survey group

- Telephone survey using CATI method
- Selection of a minimum of 60 installers according to the following criteria:
  - Active in PV for more than one year
  - Storage technologies from brand manufacturers in portfolio

### Time frame of survey

- First survey in 2014-Q4
- Regular survey conducted in the middle of each quarter
- Field time: two weeks in the mid of each quarter
- Delivery time: quarterly, at the end of second month in each quarter (i.e. first delivery end of February)

### Database time series:

- Starting in 2014-Q4
- Model information available as of: 2014-Q4

## V. Tool Insights

### Key Data in a very flexible and accessible Excel Format:

- Easy to manage data in Excel Format:

**EuPD Research**  
Energy & Utilities

### StoragePrice Tool

Keeping track of Residential storage Prices in Germany  
Quarterly Basis

Update Q3 2014

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- Customized analysis of data through the use of flexible, self adjustable tables that allow adjusting the insights to the current information needs

Manufacturer		(Alle)	
AVg Price_net_basis €/kWh	Category		
Zeilenbeschriftungen	Lead-acid	Lithium-ion	Total Avg
2013			
Q1			
catA  [0 - 3) kWh	2589		2589
catB  [3 - 10) kWh	2189		2350
<b>Total Avg</b>	<b>2389</b>		<b>2406</b>

Sample

## V. Tool Insights

### Valuable and solid data basis and flexible category definition

- Verified raw data is also available from tool:

PricePoint_ID	Interview_ID	Year	Quarter	Technology	Manufacturer	Price-unit_€	Nominal_Capacity_kWh
PP_ID_00001	1	2013	Q1	Lithium-ion	E3/DC	9000	5
PP_ID_00002	2	2013	Q1	Lithium-ion	E3/DC	10000	5
PP_ID_00003	6	2013	Q1	Lithium-ion	STC	12000	10
PP_ID_00004	7	2013	Q1	Lithium-ion	RWE HomePow	13000	5
PP_ID_00005	7	2013	Q1	Lithium-ion	Bosch (Voltwerl	18000	9
PP_ID_00006	8	2013	Q1	Lithium-ion	IBC Solar	13000	8
PP_ID_00007	9	2013	Q1	Lithium-ion	Akasol	9500	4
PP_ID_00008	9	2013	Q1	Lithium-ion	Bosch (Voltwerl	18000	9
PP_ID_00009	13	2013	Q1	Lithium-ion	Sonnenbatterie	9900	5
PP_ID_00010	15	2013	Q1	Lithium-ion	E3/DC	10000	5
PP_ID_00011	18	2013	Q1	Lithium-ion	Bosch (Voltwerl	20000	9
PP_ID_00012	18	2013	Q1	Lithium-ion	RWE HomePow	11500	5
PP_ID_00013	19	2013	Q1	Lithium-ion	SIA Energy	10000	8
PP_ID_00014	20	2013	Q1	Lithium-ion	E3/DC	11000	6
PP_ID_00015	20	2013	Q1	Lithium-ion	Bosch (Voltwerl	21000	9
PP_ID_00016	21	2013	Q1	Lithium-ion	SMA	10000	5
PP_ID_00017	22	2013	Q2	Lithium-ion	IBC Solar	10000	5
PP_ID_00018	23	2013	Q2	Lithium-ion	Bosch (V	10000	7
PP_ID_00019	24	2013	Q2	Lithium-ion	E3/DC	10000	4
PP_ID_00020	24	2013	Q2	Lithium-ion	E3/DC	10000	4
PP_ID_00021	25	2013	Q2	Lithium-ion	Bosch (V	12000	5
PP_ID_00022	25	2013	Q2	Lithium-ion	Bosch (V	18400	9
PP_ID_00023	26	2013	Q2	Lithium-ion	Bosch (V	10000	6
PP_ID_00024	26	2013	Q2	Lithium-ion	Bosch (V	20900	11
PP_ID_00025	27	2013	Q2	Lithium-ion	Bosch (V	11500	5
PP_ID_00026	27	2013	Q2	Lithium-ion	Bosch (V	16000	7
PP_ID_00027	27	2013	Q2	Lithium-ion	Bosch (V	21000	8
PP_ID_00028	28	2013	Q2	Lithium-ion	Bosch (V	23500	13
PP_ID_00029	29	2013	Q2	Lithium-ion	Dispatsch	10900	5
PP_ID_00030	30	2013	Q2	Lithium-ion	E3/DC	12000	4
PP_ID_00031	31	2013	Q2	Lithium-ion	E3/DC	10000	4
PP_ID_00032	31	2013	Q2	Lithium-ion	IBC Solar	8300	6

- For a more customized analysis, the size category definitions of systems can be changed to analyze price data for storage systems according to desired size segments:

### Flexible Category Definition:

nom-cap	kWh	Nom_Cap_Category
cat1	0	cat1<3
cat2	3	cat2<10
cat3	10	cat3<20
cat4	20	cat4<100
cat5	100	cat5<200
cat6	200	cat6<=200

Nom_Cap_Category
cat1  [0 - 3) kWh
cat2  [3 - 10) kWh
cat3  [10 - 20) kWh
cat4  [20 - 100) kWh
cat5  [100 - 200) kWh
cat6  [200 - >=200) kWh



## V. Tool Insights

### Powerful, quick and flexible analysis of data

- Adjustable tables allow strong analytical capabilities in terms of prices and brands

Technology		Lead-acid
Analyzed Periods		
Avg Price_net_basis_€/kWh	Avg Net_Capacity_kWh	
2013		
Q1		
BAE	2400	3.50
IBC Solar	1625	4.00
Nedap	2754	2.00
SMA	2467	
Solarworld	2314	
Kostal / Hoppecl	2400	
Q2		
Azur Solar	2111	4.75
Donauer		2.00
IBC Solar		4.00
Nedap		2.00
SMA		2.83
Solarw		
<b>Total</b>	<b>2057</b>	<b>2.93</b>

Sample

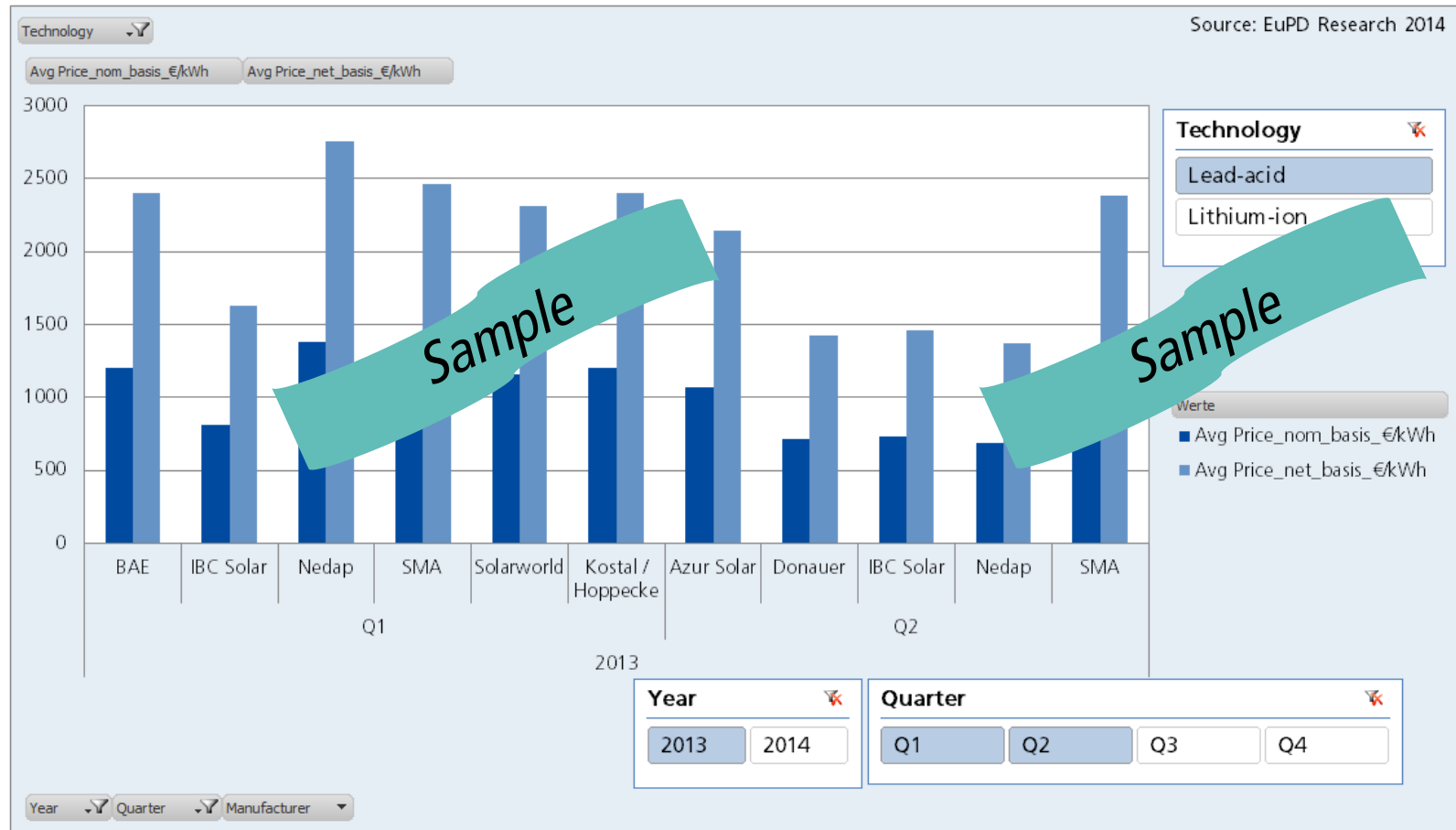
- Easy access and adaptability of all variables for more accurate and specific analysis

The screenshot displays a complex data analysis tool interface. It features several stacked dropdown menus for selecting variables: 'Technology' (Lead-acid, Lithic), 'Manufacturer' (Azur Solar, BAE, Donau, IBC Sol, Kostal, Nedap, SMA, Solarw), 'Model' (BAE-Batter, BPT-S 5 Hyt, Eco 4.5, Engion Fan), 'Nominal\_Capacity...' (3, 4, 5, 6, 7, 8), and 'Net\_Capacity kWh' (1, 2, 3, 4, 5, 6, 7, 8). A 'Channel' dropdown is also visible with options for 'Manufacturer', 'NA', and 'Wholesaler'. On the right, a 'Bereichsfilter' (Area Filter) section shows 'Technology' selected, and a 'Spaltenbeschriftungen' (Column Labels) section shows 'Year', 'Quarter', and 'Manufacturer' selected. Below these, 'Zellenbeschriftungen' (Cell Labels) are shown with 'Avg Price\_net\_basis\_€/kWh' and 'Avg Price\_nom\_basis\_€/kWh' selected. A large teal 'Sample' banner is overlaid on the interface.

## V. Tool Insights

### Adjustable Graphical Output for easier trends detection

- Charts adjust automatically according to selected analysis criteria:



## VI. Order Form for the StoragePrice Tool | Fax: +49(0)228-97143-11 to Mr. Saif Islam

### I would like to order (please tick appropriate box):

StoragePrice Tool Net Price 1 year subscription until end of 2016: 6,450 €

Detailed database with quarterly storage system price data (starting from Q4 2014)

Quarterly updates in 2016 (about 120 data sets per delivery) at the end of second month in each quarter

Two hours telephone support included

Additional: Corporate License\*\* Net Price 1,550 €

Additional: EuPD Research create the graphs in my Corporate Design Net Price 880 €

Name: \_\_\_\_\_

Telephone: \_\_\_\_\_

Company: \_\_\_\_\_

Fax: \_\_\_\_\_

Position/Dept: \_\_\_\_\_

E-Mail: \_\_\_\_\_

Street/Postcode: \_\_\_\_\_

Sales tax ID\*: \_\_\_\_\_

City/Country: \_\_\_\_\_

General terms and conditions of business  
noticed and accepted

\* if company is not located in Germany

\*\* tool use registered to 100% daughter/ mother companies

Signature: \_\_\_\_\_

### Contract Period and Termination

The contract is entered into upon signature and expires on December 31st, 2016. At the end of the initial term, this agreement shall automatically renew for successive one-year periods unless terminated by the client with three months prior notice.

### Payment terms :

100% on order, \*All Prices without VAT

## References

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## VII. References



**European InstallerMonitor.** How the installer landscape is developing: The fourth edition of the EuPD Research European PV InstallerMonitor 2012/2013© will offer a comprehensive set of data and information essential for the development of sales and marketing strategies. As in previous years the study will emphasize the topics of brand and procurement management.



**PV SalesMonitor.** Price developments and pricing policy. Benchmark your pricing policy and improve your sales network with information on systems installed and prices paid across the German market. Detect regional difference and adapt your strategies accordingly.



**PV Storage Calculator.** The present tool supports Business Developers in analyzing the new driver of „independence“. Furthermore, target prices can be calculated and business models can be backed up with numbers. Sales and Strategic Marketing can use the results in order to communicate the topic towards partners and installers.

## VII. References



## VIII. General Terms and Conditions of Business I

### General terms and conditions of business

#### 1. Scope of Application

1.1 All contracts between EuPD Research - as registered brand of Hoehner Research and Consulting Group GmbH (hereafter HRCG GmbH) - and the customer shall be subject exclusively to the following terms and conditions. The customer's term of business and purchase shall not be applicable and shall put HRCG GmbH under obligation to comply only in the event that HRCG GmbH should expressly agree to them.

1.2 The offer is directed exclusively towards commercial clients, that is, companies according to Art. 14 BGB (German Civil Code). Private customers, that is, consumers according to Art. 13 BGB, are not permitted to place legally binding orders based on this offer. Interested private customers should contact EuPD Research by telephone under advice of a noncommercial order inquiry. Furthermore, the legal right to return items protected under consumer rights does not apply for commercial customer orders, but does apply to consumer orders (but not through the shop).

#### 2. Offer and Order

2.1 The presentation of the products together with the order form do not constitute a legally binding offer. The offers are without engagement and only for internal use of the customer.

2.2 After purchase details have been entered and the general terms and conditions of business as well as the transmission of the order form have been accepted, the customer enters into a binding contract to purchase the selected products. This will be confirmed immediately by email or fax to the address given by the customer. The purchase contract between the purchaser and HRCG GmbH is created when the order is confirmed or when the products are delivered either by mail or download. If the situation should arise that HRCG GmbH does not confirm or ship the order within 10 days, the purchaser is no longer bound to the contract.

#### 3. Scope of Services, Salary and Prices

3.1 The scope of due payment and salary devoted exclusively to the order based on the offer. Any addition and/ or aberration need the written confirmation of HRCG GmbH for their effectiveness and inclusion.

3.2 In case that circumstance occurs for that HRCG GmbH isn't responsible and that carried out temporary hindrances for provision of services, agreed services and delivery appointments will extend. Customers will be informed about occurred hindrances and therefore related lag of times immediately.

3.3 Offered services contained following types of products:

a. Multi-Client-Services: client-independent studies for an indefinite number of customers.

b. Shared-Services: initiated study of a limited number of customers for the purchase exclusively by the customers.

c. Exclusive-Services: assignment by a single customer who will get the exclusive right of use for an individually negotiated space of time. The exclusively right of use will be changed in a non-exclusive right of use, without any further agreement or adjustment not later than 12 months.

3.4 The prices are net prices in euros not including sales tax or delivery costs. Sales tax will be added to the net costs according to the legally defined percentage. The prices valid at the time of ordering are binding.

#### 4. Travel Expenses

4.1 Travel expenses for workshops of HRCG GmbH/ EuPD Research which will provide in combination with studies aren't content of the offer. Prices have to be paid separately by the customer. Workshops could be acquired optionally, too. This does not apply if it is explicit appointed that the workshop or the emerged travel expenses for the workshop are contractual objects and therefore not to pay separately.

#### 5. Shipping, Terms of Payment, Charging

5.1 The delivery costs depend on the quantity of products ordered and the delivery address of ordered products as well as the type of delivery. The cost will be shown before the order is complete. For products which are downloaded there are no delivery costs. The customer accepts that any fees or charges owed for customs or non-EU addresses will not be paid nor liable by HRCG GmbH.

#### 5.2 Payment methods

Solely pre-payment will be accepted as payment method. Pre-payment: Goods will be sent after payment has been received to the HRCG GmbH account. Invoice: Payment upon receipt of an invoice is only possible for existing customers or in exceptional circumstances for orders by fax from companies, authorities or further education institutions.

## VIII. General Terms and Conditions of Business I

5.3 The method of delivery, route and company employed to deliver will be chosen by HRCG GmbH in one's sole discretion. Once the purchaser has taken delivery of the item from the delivery service, the purchaser is responsible for the item. Any damage sustained in transit should be demonstrated to the delivery company and immediately reported to HRCG GmbH. Part deliveries are permissible where appropriate.

5.4 HRCG GmbH/ EuPD Research retains ownership of all goods and all rights pertaining to usage of data files as well as intellectual property until payment of invoice is received in full. Intellectual property rights are lawfully retained by the author. The customer is able to offset claims if claims legally binding detected, uncontested or written accepted by HRCG GmbH. Customers are able to claim liens if counterclaims based on the same contractual relationship. The transfer of customer claims toward HRCG GmbH is barred.

### 6. Copyright and Rights of Use

6.1 The products and the intellectual property embodied in them are protected by copyright. All offered products are only available for use; the owner of the work remains the creator. Every possible use of the work not explicitly permitted by copyright law is not allowed without the prior written consent of HRCG GmbH as the licensor and/or the written consent of the author. This includes but is not limited to copying, distributing, publishing, translating, saving, processing and reproducing the work in databases. Noncompliance will be prosecuted.

6.2 The customer will basically get a non-transferable and non-exclusive right of use (except Exclusive-Services) for personal use respectively for use within the ordering company on the content and the results of the study.

6.3 A transfer of study content and results, the publication, reproduction, copying, including storage on data mediums in any sort are allowed only by previous acceptance of HRCG GmbH.

### 7. Liability

7.1 The products available were prepared using professional methods and with great care, taking relevant legislation into account. The data contained in this product is based on surveys of sample populations, conducted using standard statistical methods with the aim to ensure the best possible correctness and results of studies. As such the study is subject to a certain statistical error rate and is based exclusively on the facts which were available at the time of the survey. Due to aforementioned the correctness and completeness of the studies and the available data is not guaranteed.

7.2 The studies contain specific information, but explicitly do not contain any concrete investment or action recommendations. In the case that studies are adopted as supporting measures for decisions of the user in one's own decision and in awareness of the above-mentioned, for the economical success of undertaking investments or activities no liability will be taken over.

If the information contained in the studies is used as a supporting basis for any decision, no liability will be taken for the economic success of the investment or action.

### 8. Place of Jurisdiction

All agreements and business relationships shall be governed under German law; the courts of Bonn shall have exclusive jurisdiction.

### 9. Severability Clause

Should an appointment or a part of an appointment of these general terms and conditions of business completely or partly be invalid or include a gap, it doesn't affect the validation of the rest of the appointments or terms. In that case, the legal requirements coming into effect.

As at: May 2009



## Editorial

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