Global Energy Transition (GET) Matrix

Shared Services

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01. About Global Energy Transition (GET) Matrix

- Over the last decade the global solar PV industry has evolved rapidly. Due to the reduced costs of solar PV and its increased competitiveness against other forms of energy, solar PV is well positioned to become one of the major sources of energy in the years to come.

- Today, more than 50 country markets globally are using solar power to fulfill their electricity requirements and the number of countries adopting this clean source of energy will only increase in the future.

- Consequently, in order to understand and be successful in these markets, it is important to monitor them continuously and enter new emerging markets at the right time to grow your business as solar PV diffusion process strengthens.

- Global Energy Transition (GET) Matrix is an online tool which can be accessed 365 days a year to gain insights into the latest developments in 50+ global PV markets.

- The tool tracks several key parameters in these country markets including solar PV installations (achieved and projected), electricity market dynamics, electricity prices, solar PV tenders, political and regulatory mechanisms, major downstream stakeholders in the country markets, economical conditions and top solar related news.

- The tool is be accessible to users on a yearly subscription based model and is updated on a continuous basis by EUPD Research analysts for ready reference.

GET Matrix is designed to assist subscribers monitor and update their know-how about the ever changing solar market dynamics and serve as a basis for them to develop strategies to enter new emerging markets and strengthen market position in existing geographies.
01. About Global Energy Transition (GET) Matrix

Countries* Tracked

Global Energy Transition (GET) Matrix contains information on the solar developments in 50+ country markets. Over the course of time (subsequent years) EUPD Research will add more countries to this list.

* - List of country markets tracked in the GET Matrix – EUPD Research reserves the right to add or delete or modify +/-5 country markets from the list in case global package is opted for
# 01. About Global Energy Transition (GET) Matrix

## Countries* Tracked

### Africa
- Egypt
- South Africa

### Middle East
- Iran
- Iraq
- Israel
- Jordan
- Kuwait
- Saudi Arabia
- Oman
- UAE
- Yemen

### Asia
- India
- Japan
- South Korea
- Pakistan
- Singapore
- Sri Lanka
- Vietnam

### Oceania
- Australia
- New Zealand

### North America
- Canada
- USA
- Mexico

### Europe
- Austria
- Belgium
- Bulgaria
- Czech Republic
- Denmark
- France
- Germany
- Greece
- Hungary
- Italy
- Luxembourg
- Malta

### South America
- Brazil
- Chile

* - List of country markets tracked in the GET Matrix – EUPD Research reserves the right to add or delete or modify +/-5 country markets from the list in case global package is opted for
01. About Global Energy Transition (GET) Matrix

GET Matrix tracks multitude of parameters which affect and reflect the solar PV development in the 50+ country markets. These parameters are updated for all country markets on a regular basis by EUPD Research analysts:

**SOLAR PV**
- Solar PV Installed Capacity (segment wise) – Historical up to 2019
- Projected Solar PV Installed Capacity (segment wise) – 2020E to 2023E
- Cumulated Solar PV Installations
- Funding / Incentive Schemes and regulatory policies
- Average Solar Irradiation

**ELECTRICITY MARKET**
- Electricity Generation
- Electricity Mix
- Electrification Rate
- Electricity Prices (Average Residential, Commercial and Industrial)
- Share of Renewables in Electricity Production
- Power Outages (System Average Interruption Duration Index)

**ECONOMIC & POLITICAL PARAMETERS**
- Gross Domestic Product
- Per Capita Income
- Interest Rates and Currency Exchange Rates
- Renewable / Solar Energy Targets
- List of government authorities in-charge of promoting renewable / solar energy
01. About Global Energy Transition (GET) Matrix

Content Overview (2/2)

GET Matrix tracks multitude of parameters which affect and reflect the solar PV development in the 50+ country markets. These parameters are updated for all country markets on a regular basis by EUPD Research analysts:

**STAKEHOLDERS**
- Long-listing of major companies active in the downstream segment

**TOP NEWS**
- Latest regulatory, tender results, company related news
- Technological related news articles

**EUPD RESEARCH INSIGHTS**
- Solar PV Readiness Index (country rankings from market attractiveness)
- Key trends and insights on market development
- Expert Opinions
01. About Global Energy Transition (GET) Matrix

Sources
The data gathering and PV market forecasts for the GET Matrix are built using multiple sources including primary research, secondary research, access to official databases and internal analysis and modeling by EUPD Research analysts.

1 PRIMARY RESEARCH
Interviews with experts and downstream stakeholders in country markets

2 SECONDARY RESEARCH
News articles, online research

3 OFFICIAL DATABASES
Official registers of the national governments

4 INTERNAL ANALYSIS
Internal analysis and modeling by EUPD Research

The highly precise and accurate data from the GET Matrix allows companies to:

- Target the most important PV markets efficiently
- Derive clear narratives and possibilities within markets
- Assist in planning and executing strategies within the most lucrative global PV markets
01. About Global Energy Transition (GET) Matrix

Consultation

- In addition to the access to the GET Matrix, the subscribers will get up to 2 hours of free consultation* call(s) with the EUPD Research analysts each quarter (in case of booking the Global Package only) should they prefer to discuss the contents of the GET Matrix with our analysts.

- The subscribers to the GET Matrix will be required to seek an appointment 3 weeks in advance and submit their questions beforehand.

- Providing a detailed outline of the questions beforehand will ensure that our consultants can provide you the best possible service.

- Instead of the consultation, EUPD Research can provide a Global Market Overview presentation to your management each quarter to keep them updated on the latest developments globally (Note: presentation will be given in English only).

* - in case of booking the Global GET Matrix Package only
01. About Global Energy Transition (GET) Matrix

**Benefits**

GET Matrix caters to various stakeholder groups and benefits them by providing data on the latest developments on solar PV markets.

**Stakeholder Groups**

- Module Manufacturers
- Inverter Manufacturers
- Structure Manufacturers
- BOS Manufacturers
- Project Developers / EPCs
- Wholesalers
- Investment Companies / Banks

**Benefits of the GET MATRIX:**

- Be informed about all relevant solar markets at all times
- Develop a clear market understanding
- Benchmark your internal data with data from EUPD Research analysts
- Identify emerging markets at an early stage
- Find cooperation partners
- To have a holistic view of the global photovoltaic market
- Get data and market information to present individual country markets, regions or the global market to investors
02. Sample Screenshots

Subscribers will be provided with login credentials to securely access the tool with the access level depending on the subscription at continental / global basis.
02. Sample Screenshots

Subscribers can choose to study the statistics and information within the tool by country which will be updated on a regular basis by the EUPD Research analysts.
02. Sample Screenshots

Various relevant parameters pertaining to the development of solar PV in the country market will be presented for analysis and comparison.

INTRODUCTION

Germany is leaving the fossil-nuclear energy age behind. Solar PV is set to play an important role in the sustainable energy future. In 2018, the cumulative installed PV capacity grew to approx. 30 GW. 2019 witnessed almost 4 GW of installed capacity which was 36 % more than that in 2018. When it comes to solar PV, Germany which has Europe's largest economy seems to be back on a positive trajectory again. Despite the COVID-19 pandemic, the market has shown healthy development and the base seems set for further strong growth in the coming years. Besides the regulated market of auctions, a number of projects can be counted that are outside the Renewable Energy Sources (EEG) remuneration regime. Corporate PPAs are starting to take-off, as witnessed by the first 50 MW+ connected in 2019, kick-starting a dynamic development as of 2020.

Germany is currently looking forward to a renewal of the EEG. According to Germany’s Climate Action Program 2030, the share of renewable energy is supposed to increase from about 30 % in 2018 up to 60 % in 2030. Solar PV is expected to play a key role in this mix and a target of 98 GW cumulated installed capacity has been set for 2030.

CUMULATED INSTALLED PV CAPACITY

The cumulated installed PV capacity describes the total installation capacity of all installed photovoltaic systems.

From a cumulated installed base of 65 GW in 2018, Germany reached approx. 30 GW at the end of 2019, which is just 2 GW less than the 2020 target of 52 GW.
02. Sample Screenshots

Various relevant parameters pertaining to the development of solar PV in the country market will be presented for analysis and comparison.
02. Sample Screenshots

The tool will allow the subscribers to view and analyze various parameters across country markets and identify the most lucrative PV markets.
02. Sample Screenshots

The news section can be accessed to learn about the latest developments and will be categorized by country to get the specific information related to a country market.
03. About EUPD Research

- EuPD Research is a German market research and consulting company operating internationally with a focus on renewable energies and particularly on solar photovoltaics.

- Over twenty years of expertise allowed us to develop a profound knowledge of the global PV markets with Germany and Europe as our home base.

- Until mid-2020 EuPD Research had conducted over 2,000+ research and consulting projects about energy markets and renewable energies. This way we improved our knowledge and competences, especially on an international level.

- By participating in partnerships and international conferences EuPD Research has made a name for itself globally and established close contact with players in politics and the PV industry.

- EuPD Research is well-practiced at the compilation of market intelligence reports due to our own comprehensive products. In Q1 2021, EuPD Research will publish the thirteenth volume of our Global PV InstallerMonitor®, which provides comprehensive insights into the European key markets, as well as Australia. Further studies have covered the US market, the German end customer (annual study), module and storage price developments and the business climate.
03. About EUPD Research

- EuPD Research offers a broad variety of consulting services to meet our customers’ demand. We tailor market entry strategies for our clientele helping them understand the market dynamics of the industry and amongst other things adapt sales and product policies.

- For this we analyze different regions and create market models to show which countries offer highest potential. We display the status quo, market forecasts, analyze the country markets in detail (e.g. incentives, electricity prices etc.) and review the existing competition in the market.

- Furthermore, we depict the end-customers’ buying process, be it private homeowners or business owners and can thus outline divers and barriers.

- In addition, we define market-specific drivers, create economic calculations and analyze business models (e.g. tender programs, bidding strategies).

- Also, we support our customers’ to enter country markets by connecting them with key market stakeholders (such as installers) by offering various services, such as webinars, whitepapers and roadshows.

- Based on our experience, in the industry we define strategies in co-operation with our customers and help them implement the necessary steps to secure success.
# 03. About EUPD Research

References in the energy market segment (extract)

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EUPD Research
04. General Terms and Conditions of Business I

1. Scope

1.1 All contracts between EuPD Research Sustainable Management GmbH (hereafter EuPD GmbH) - and the customer shall be subject to the following terms and conditions only. The customer’s terms and conditions of business shall not be applicable and shall not put EuPD GmbH under any obligation to comply unless EuPD GmbH explicitly gives written acknowledgment and acceptance of such conditions.

1.2 Offers are aimed exclusively at commercial clients, that is, companies according to Article 14 BGB (German Civil Code). Private customers, that is, customers according to Article 13 BGB, are not permitted to place legally binding orders based on the aforementioned. Interested private customers should contact EuPD Research by telephone for information on how to place a non-commercial order. Furthermore, the legal right to return items as stated in consumer protection law does not apply to orders placed by commercial clients but does apply to orders placed by private customers.

2. Offer and Ordering Process

2.1 The presentation of the products together with the order form does not constitute a legally binding offer. Offers are subject to the written confirmation of EuPD GmbH. They are designated for the internal use of the customer only.

2.2 The purchaser places a binding offer for the product of choice when all relevant purchase details have been given and the general terms and conditions of business accepted. This will be confirmed immediately by email or fax sent to the address given by the customer. The contract to purchase between the purchaser and EuPD GmbH is valid from when the order is confirmed, or, the products are delivered either by mail or download.

3. Scope of Services, Remuneration and Prices

3.1 Services offered include but are not limited to the following:

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

b. Shared-Services: commissioned study on behalf of a limited number of customers for the exclusive purchase of those customers.

c. Exclusive-Services: assignments carried out on behalf of a single customer who will have the exclusive license to use the product but only for an individually negotiated period of time. This exclusive license will be for a period no longer than 12 months. After a period of no longer than 12 months it will become a non-exclusive license.

3.2 The prices are net prices in Euros. They do not include sales tax/VAT or delivery costs. Sales tax/VAT will be added to the net costs according to the legally defined percentage. The prices valid at the time of ordering are binding.

3.3 Travel expenses incurred for EuPD GmbH workshops either provided in combination with studies or booked separately are not included in the scope of the offer. Prices have to be paid separately by the customer. This does not apply if it is explicitly agreed that the workshop or the resulting travel expenses for the workshop are part of the negotiated contract and thus do not to have to be paid separately.

3.4 Should circumstances arise beyond the control of EuPD GmbH which impose a temporary hindrance on the provision of services, then services and delivery appointments agreed on will be extended. Customers will be informed of any such event or other delay immediately.

4. Terms of Payment and Delivery

4.1 Payment is to be made to the amount and method stated in the contract. Any addition and/ or aberration require the written confirmation of EuPD GmbH in order to be effective.

4.2 Payment is generally to be made upon receipt of invoice. The products will be shipped as soon as full payment has been made to the account of EuPD GmbH. The terms and conditions for payment and delivery of Shared-Services and Exclusive-Services are stipulated in the binding offer.

4.3 Delivery costs depend on the quantity of products ordered, their destination as well as type of delivery. There are no delivery costs for products which can be downloaded. The customer accepts that any fees or charges owed for customs or non-EU addresses will not be paid by EuPD GmbH nor is EuPD GmbH liable for them.

4.4 The method of delivery, route and company employed to deliver will be chosen by EuPD GmbH at their sole discretion. Once the purchaser has taken delivery of the item from the delivery service, the purchaser is responsible for the item. The company responsible for delivery is to be made aware of any damage sustained in transit immediately. These damages are also to be reported to EuPD GmbH immediately. Part deliveries are permissible where appropriate.
04. General Terms and Conditions of Business II

4.5 EuPD GmbH retains ownership of all goods and all licensing rights pertaining to the usage of data files as well as intellectual property until payment of invoice has been made in full. Intellectual property rights are lawfully retained by the author.

4.6 The purchaser is only able to offset counter claims if they are acknowledged by law, uncontested, or prior written consent has been granted by EuPD GmbH. Customers are only have the right of retention if counterclaims are based on the same contractual relationship. The customer is prohibited from transferring any claims of payment against EuPD GmbH to a third party.

4.7 The estimated costs for the services provided by EuPD Research are based on project calculations and experience. Estimations are optimized and customer-oriented so that lower deviations may not be assumed. However, it cannot be fully excluded that additional effort maybe required in the completion phase of the project. Should the suggested amount be exceeded, EuPD Research will inform the client promptly. Such additional efforts will be calculated on the basis of man-day costs and these may vary according to the qualification of the staff involved. Upon notification of these additional costs the client may choose whether the project shall continue in accordance with the original cost estimation as stated in the proposal although full completion of the project may no longer be possible or agree to the revised cost estimation thus enabling full completion of the project. Should the client agree to the latter, this shall be subject to a separate written agreement.

5. Copyright and Licenses

5.1 The products and their intellectual property are protected by copyright. It is only possible to purchase a license to use the product and not the product itself or its content. The author/creator remains the owner of intellectual property.

5.2 The customer is granted a non-transferable and non-exclusive license to use the product and the results and content in the product (with the exception of Exclusive-Services) for personal use only. As far as the customer (for example an agency) exclusively acts as the purchaser for a user mentioned by name within the order, then the right of use applies solely for said user.

5.4 Permission to use the licensed product in the national and international affiliates of the company is subject to the written approval of EuPD GmbH.

5.5 Any use of the product not explicitly permitted under copyright law is prohibited without the prior written consent of EuPD 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. Non-compliance will be prosecuted.

6. Liability

6.1 The products were prepared with the utmost care, using professional methodologies and taking relevant legislation into account with the aim of assuring the best possible accuracy of the studies and their results. The data contained in this product is based on surveys of sample populations, conducted using standard statistical methods to the best of our knowledge. 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 the aforementioned, no guarantee can be given for the accuracy and completeness of the studies and the data made available in them.

6.2 The studies contain specific information, but explicitly do not contain any definite recommendations on investments or actions to be taken. Should the user, having taken the above mentioned into consideration, choose to use the studies to support their decision making process, EuPD GmbH shall not assume liability for the economic success of such investments or actions.

7. Jurisdiction

The court of jurisdiction is Bonn. German law will be applied in all legal proceedings.

8. Severability Clause

Should any of these terms and conditions, either in full or in part, be invalid or incomplete, it shall not affect the validity of the other terms and conditions. In that case, the terms and conditions, as stated in German law come into effect.

As of October 2017
05. Contact Us

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