

Market Leadership Study[©]

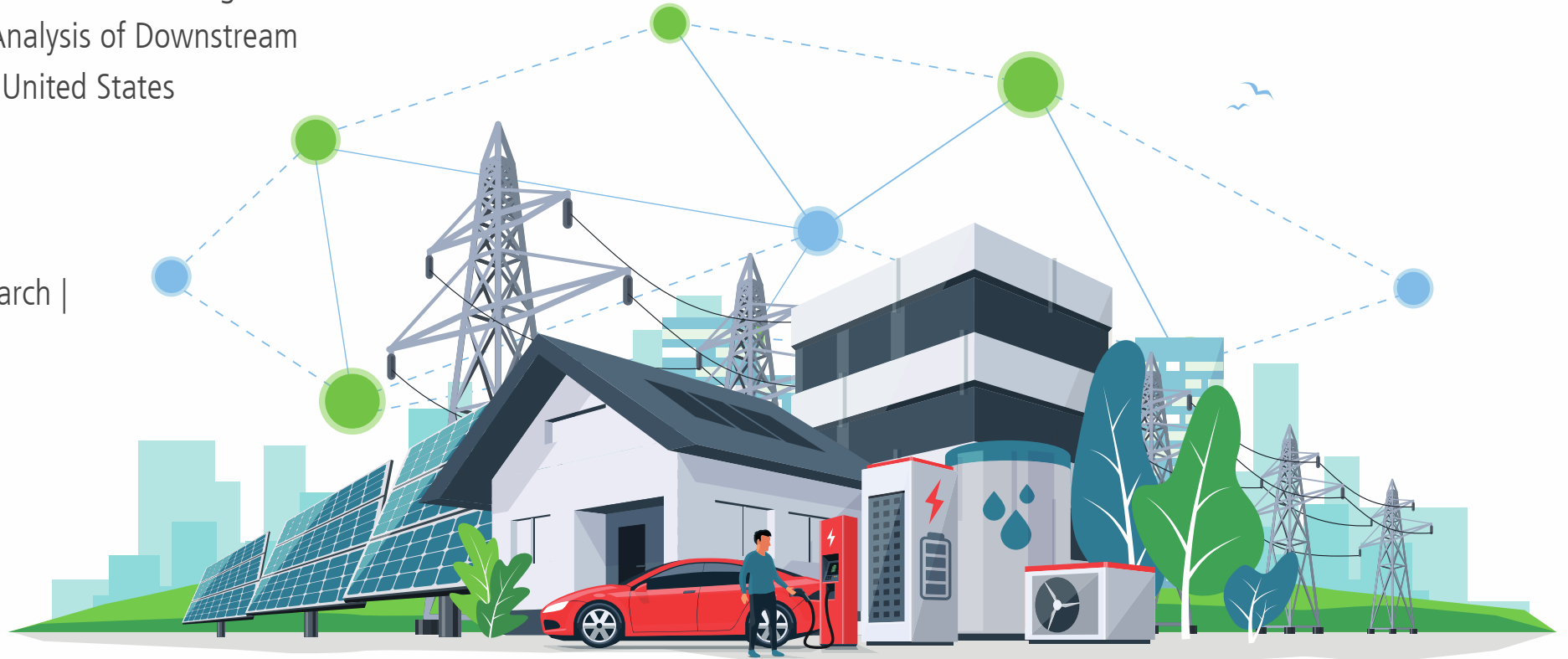
The United States 2023

Comprehensive Study of the Solar & Storage
Sector and Competitive Analysis of Downstream
Players (Installers) in the United States

Multi Client | EUPD Research |
September 2023

22+
YEARS
EUPD Research

EUPD Research
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Scene Setting

Over the past decade, the solar and storage sector in the United States (US) has witnessed remarkable growth and transformation, evolving from a niche market to a significant contributor to the country's energy landscape.

The enactment of the Inflation Reduction Act (IRA) has paved a clear path for substantial expansion in the solar and storage sector. With its incentives and support, the industry is poised for remarkable growth and advancement, contributing to a more sustainable energy future.

This comprehensive study delves into the **dynamic landscape of the solar and storage sector** within the US, with a special focus on the residential segment. The study encompasses an in-depth analysis of the solar and storage industry's current state, growth prospects, technological advancements, and regulatory environment.

In addition, the study thoroughly examines **competition among key US solar installers**, emphasizing essential aspects such as identifying key players, uncovering success determinants, exploring competitive edges, and evaluating product portfolios, marketing tactics, and customer service methods.

Through the identification of key stakeholders, success factors, differentiation approaches, product assessments, and customer engagement analyses, the research elucidates the complex landscape of solar installer competition. It offers insights into strategies that have propelled specific firms to excel in this dynamic and evolving market.

Your Added Values

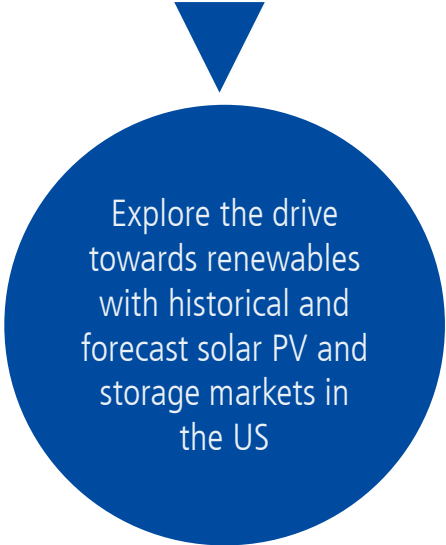
Utilize the Report to understand:

SOLAR PV & STORAGE
MARKET

THOROUGH INSIGHTS INTO
THE TOP 5 STATES

EXPLORE KEY DOWNSTREAM
PLAYERS


COMPETITIVE LANDSCAPE
ASSESSMENT



Explore the drive
towards renewables
with historical and
forecast solar PV and
storage markets in
the US



State-level deep
insights: Trends in
solar and storage
adoption, Drivers,
barriers, highlighting
key components



Ranking Overview:
Top 30 Installers in
the US with key
success factors

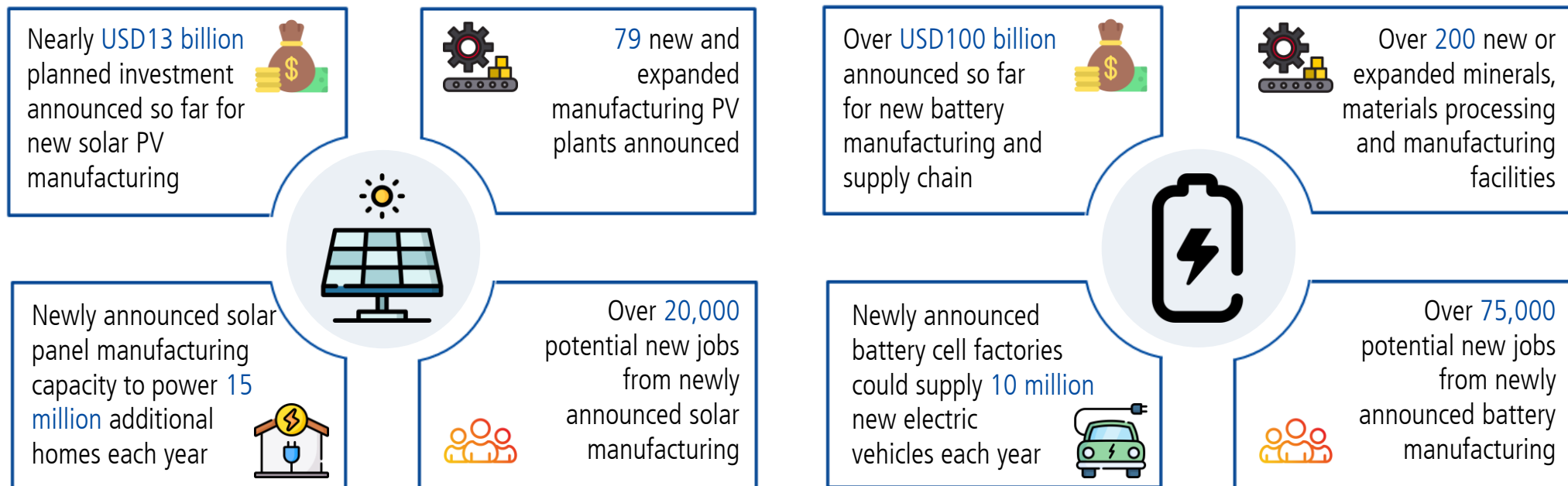


Explore installers'
strengths, products,
marketing, and
customer service for
competitive insights

Opportunities in the Solar and Storage Sectors in the US

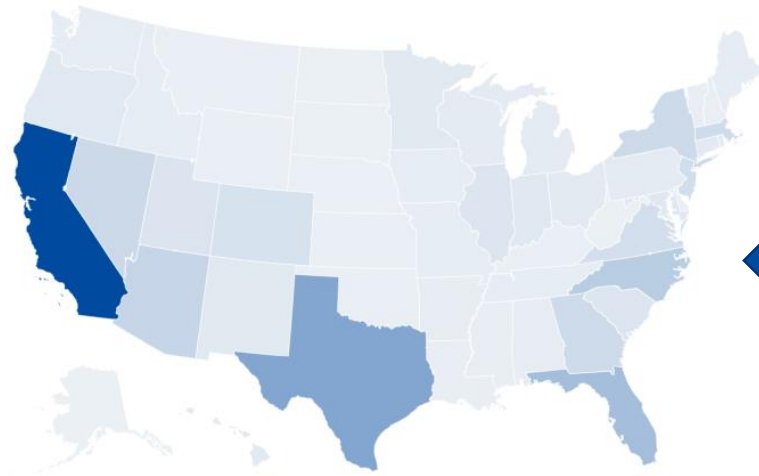
- During 2023-2028, substantial growth is forecasted for the US in the solar PV and battery energy storage sectors.
- EUPD Research estimates indicate that approximately **233 GWdc of PV capacity** and **69 GW of battery storage capacity** are set to be added during this period.
- Notably, **2023 is anticipated to set a record with a 35 GWdc increase in PV capacity**, thanks in part to the **Inflation Reduction Act**

Development in Solar and Storage Sectors in the US: Outcomes of IRA

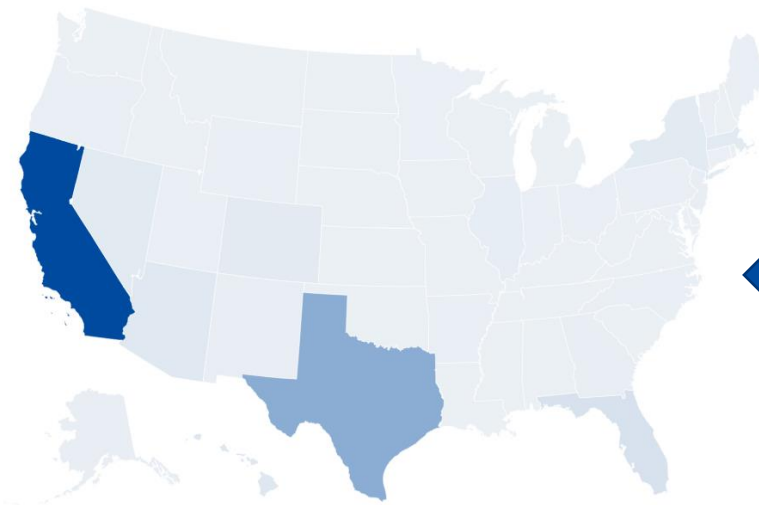


Source: U.S. Department of Energy

Overview of PV and Storage Sectors in the US



State-Wise Installed
PV Capacity



State-Wise Installed
Battery Storage
Capacity

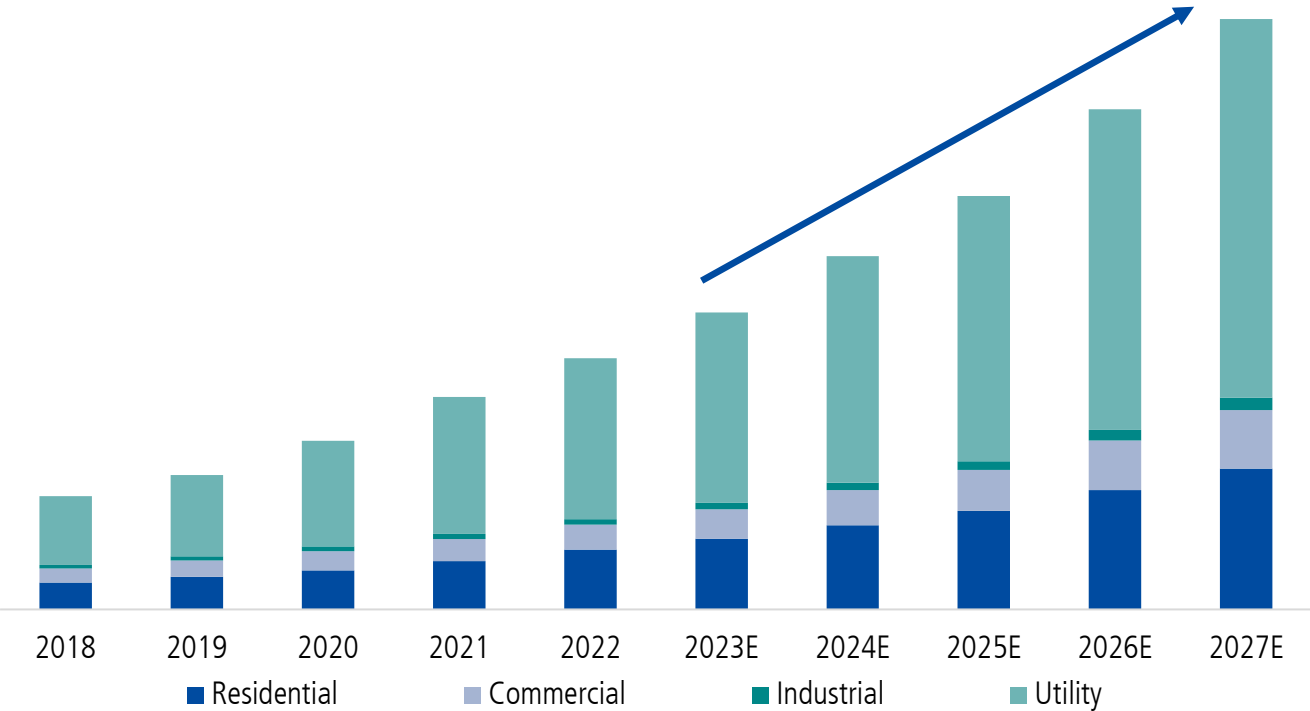
Solar PV: The US solar PV sector is experiencing remarkable growth, with installations expanding across residential, commercial, and utility-scale projects. The study delves into the latest capacity figures, technology advancements, and geographical distribution of solar installations.

Energy Storage: Energy storage solutions are gaining prominence as crucial components of the renewable energy ecosystem. Discover how various storage technologies, such as batteries are revolutionizing grid stability and enabling greater integration of renewables.

Schemes and Incentives: The study will also delve into the myriad of federal, state, and local schemes and incentives fostering the growth of solar and storage. From tax credits to net metering policies, the study guides through the incentives driving adoption and investment.

Forecast of Solar and Storage Sectors in the US

US Forecasted PV Capacity



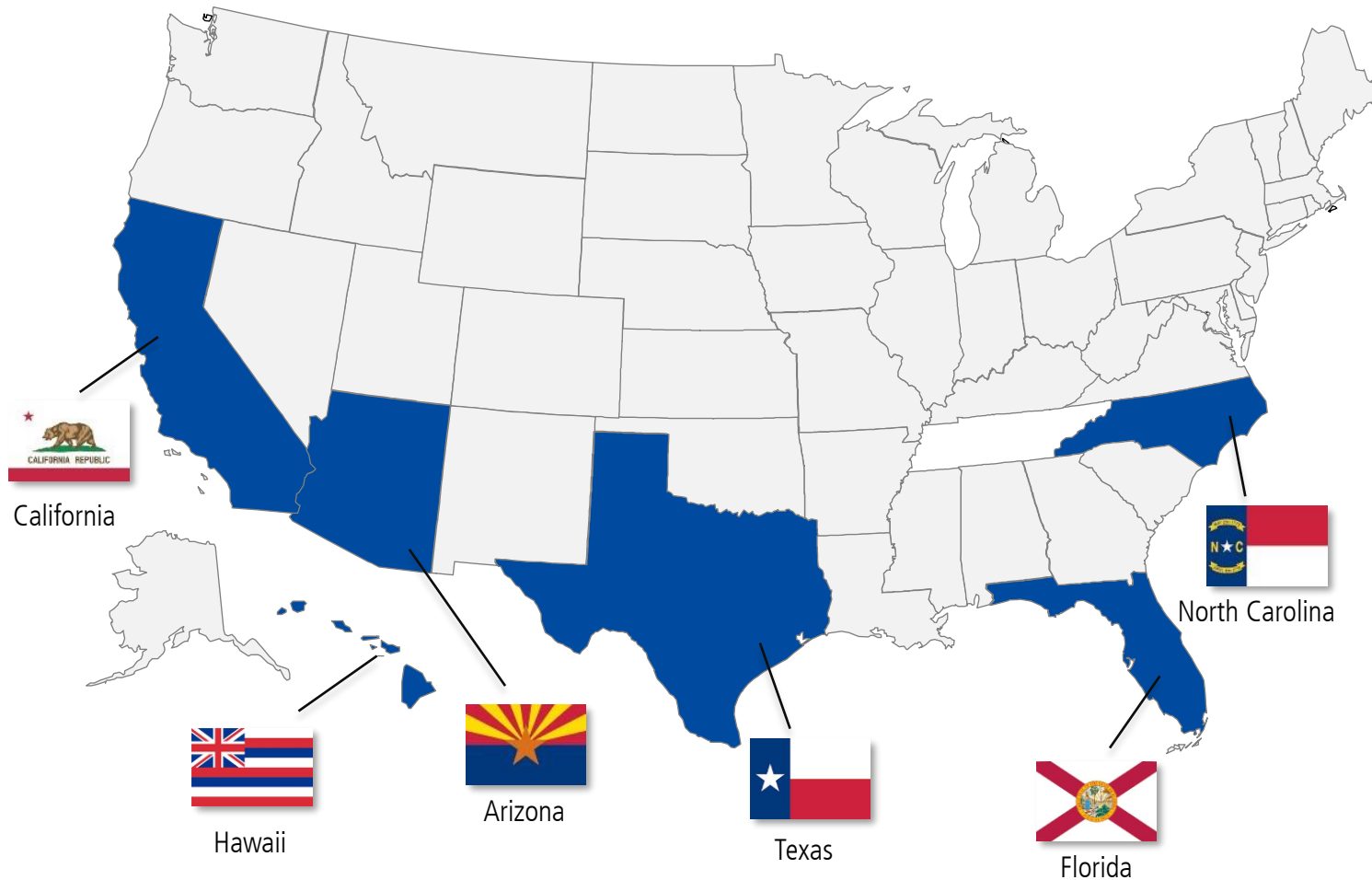
Solar PV Forecast:

The study examines the expected growth of Solar PV installations across the US. Factors such as declining costs, policy incentives, and technological advancements will shape the expansion of PV capacity. Our study explores how federal policies and state-level initiatives will contribute to the proliferation of solar energy.

Energy Storage Forecast:

Furthermore, we have examined the trajectory of Energy Storage solutions in conjunction with solar installations. Energy storage technologies, particularly batteries, are poised to play a pivotal role in enhancing grid stability and optimizing renewable energy integration. We have analyzed how these technologies are likely to evolve in response to demand, advancements, and policy dynamics.

Analysis of the Top 5 States – Solar & Storage



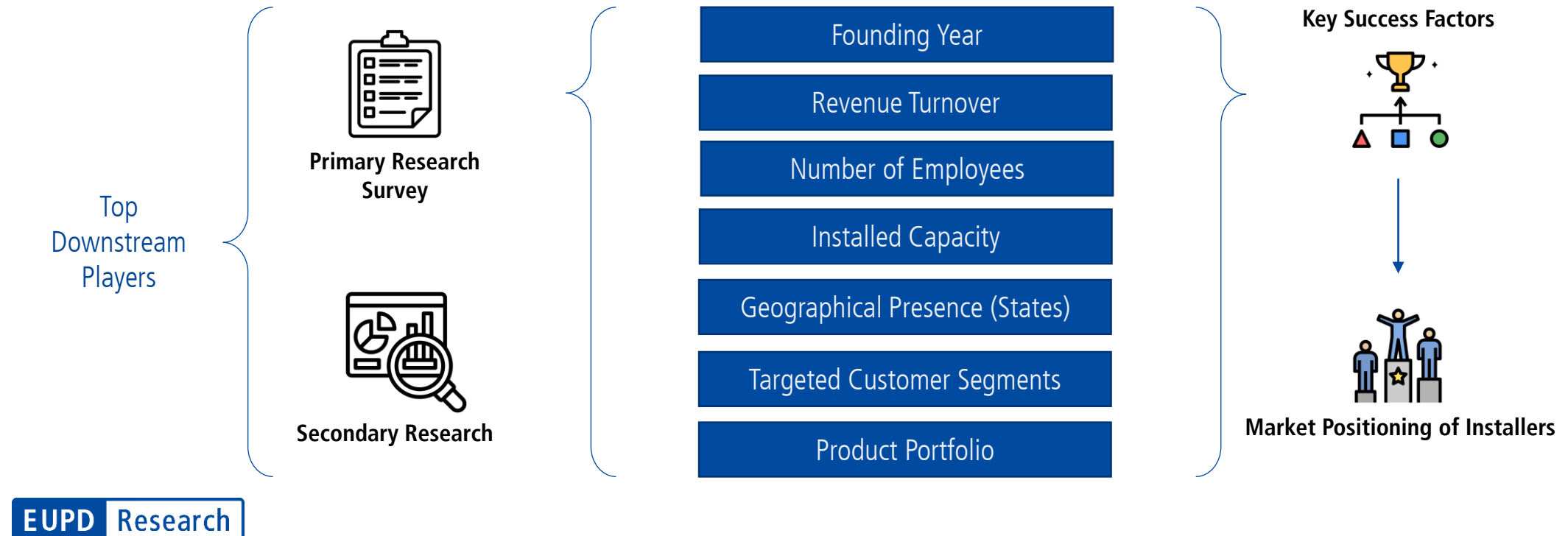
In our assessment, we delve into the leading US states with the highest solar and storage installed capacities. Our focus encompasses historical and projected PV installation capacities, as well as noteworthy financial incentives, market drivers, and barriers

The top 5 solar states (large + small scale): California, Texas, Florida, North Carolina and Arizona. Top 5 storage states (large + small scale): California, Texas, Florida, Hawaii and Arizona. (Based on H1 2023 installed capacities for solar and storage)

Competitive Landscape Analysis

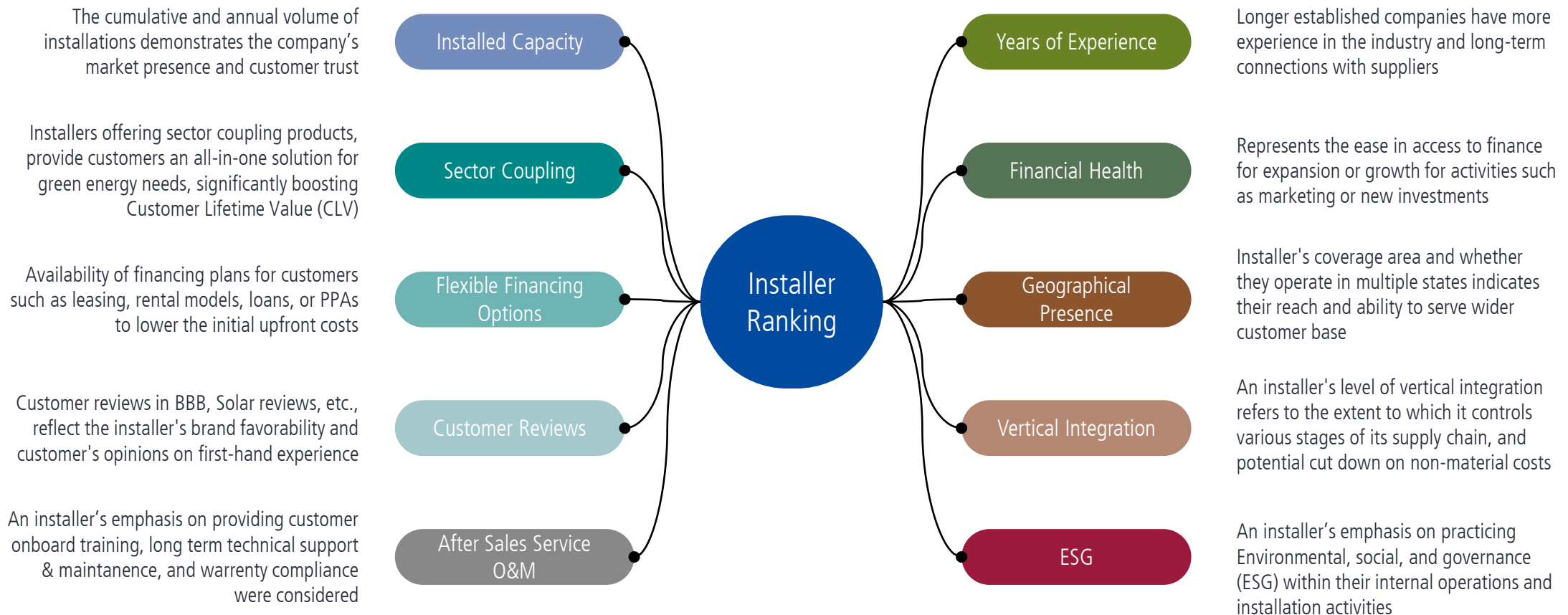
The competitive analysis involves thorough examination of the US solar PV industry. This includes identifying the key installers in the distributed solar market and assessing their current market position and evaluating their performance against the key success factors to determine their market standing.

Prominent installers were identified through their annual and cumulative installed solar capacity in the US. The essential data for market standing assessment were furnished through primary survey and supplementary insights were garnered via extensive secondary research to comprehensively rank the installers.



Competitive Landscape Analysis Methodology

The installer ranking factored in multiple variables, each assigned a specific weight in favorability, contributing to the calculation of the final installer positioning



Top 30 Solar Installers Ranked

The report's competitive analysis section presents the ranking of the top 30 solar installers in the US distributed solar industry. It offers detailed information about these leading 30 solar installer companies, covering their product portfolio, geographic reach, financing options etc.

- Top 30 installers ranked via the unique methodology that factors in 10 main parameters and several sub-parameters
- Each variable was assigned a specific weightage in calculating the overall rank of an installer
- The list of top 30 installers in the US distributed solar industry is provided
- The complete product portfolio offered by the top 30 installers is summarized as part of the competitive landscape analysis




Summary of Top 30 Installers Product Portfolio

Installer	Energy Storage	EV Charger	Smart HEMS	Other
#1	✓	✗	✓	Energy Audit
#2	✓	✓	✗	✗
#3	✗	✗	✓	Home automation & IoT
#4	✓	✓	✓	✗

Top 30 Solar Installers – Profile Pages

The report provides comprehensive company profiles of the top 30 installers in the US distributed solar market including their geographical coverage (states), founding year, annual revenue, financing options, and market strategies.



SUNPOWER®

Introduction

- Founded in 1985, Sunpower offers a wide range of products including solar PV, energy storage, EV chargers, smart HEMS, etc., in all 50 states of the US.
- Sunpower has a strong emphasis on vertical integration with a spinoff subsidiary company Maxison solar technologies specifically involved in manufacturing of PV panels.

Website: <https://us.sunpower.com/>

Marketing Strategy:

- Online solar calculator:** an online solar calculator helps potential customers estimate their solar installation costs, potential savings, and other financial aspects
- Customized home energy management tool (SunVault Configurator):** SunVault Configurator allows customers to customize their home energy solutions, enhancing the personalization of the solar experience and addressing specific energy needs
- Facebook ads:** Advertising on Facebook enables SunPower to target a wide range of demographics and interests, potentially reaching a large audience interested in renewable energy solutions
- Google / Youtube in-stream ads:** In-stream ads on platforms like Google and YouTube allow SunPower to showcase video content to users before or during their online activities. This visual approach can enhance brand awareness and engagement
- Customized follow-up mails:** Customized follow-up emails can nurture leads and guide potential customers through the decision-making process while building trust and help keeping the company top of mind

Geographical Presence

Sunpower offers their services in over 50 states:

- Arizona, California, Colorado, Connecticut, Florida, Hawaii, Illinois, Maryland, Massachusetts, Nevada, New Hampshire, New Jersey, New Mexico, New York, Pennsylvania, Rhode Island, South Carolina, Texas, Vermont, Virginia

Financing Options:

- Solar loans
- Leasing / Rental models
- Powerpurchase agreements (PPA)

Revenue

Annual revenue in 2022: US\$ 2.3 billion

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SUNRUN

Introduction

- Founded in 2007, Sunrun is the largest residential installer in the US, with more than 5.6 GW installed until end of 2022
- As the leading installer, Sunrun offers solar PV, energy storage, EV chargers, and smart HEMS, with various financing options including loans, lease, and PPA

Website: <https://www.sunrun.com/>

Marketing Strategy:

- Online solar calculator:** Providing an online solar calculator helps potential customers estimate their solar installation costs, potential savings, and other financial aspects
- Customized product selector online tool:** This tool helps customers choose the most suitable solar products or plans based on their specific needs, energy consumption, and other preferences. Customization increases the chances of conversion
- Google brand lift tool:** Google's Brand Lift measurement tool allows advertisers like Sunrun to assess the impact of their ads on brand perception, ad recall, consideration, and more
- Youtube TrueView in-stream ads:** TrueView ads are skippable video ads that play before or during YouTube videos. This can increase brand visibility and engagement
- Facebook ads:** Advertising on Facebook allows Sunrun to target specific demographics, interests, and behaviors
- Solar related blogs & SEO:** Sunrun creates innovative content related to solar to attract organic traffic through search engines
- Customized follow-up mails**

Geographical Presence

Sunrun offers their services in over 20 states:

- Arizona, California, Colorado, Connecticut, Florida, Hawaii, Illinois, Maryland, Massachusetts, Nevada, New Hampshire, New Jersey, New Mexico, New York, Pennsylvania, Rhode Island, South Carolina, Texas, Vermont, Virginia

Financing Options:

- Solar loans
- Leasing / Rental models
- Powerpurchase agreements (PPA)

Revenue

Annual revenue in 2022: US\$ 2.3 billion

EUPD Research

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Additional Products

Top Brand PV (Recognized | Prestigious)

- The **Top Brand PV** is the most recognized and prestigious certification in the international PV industry and stands for reliability and trust
- Since 2023, EUPD Research also started to investigate the top **Tier 1 installers** on a country and regional level to honor the implementers of the energy transition
- The award creates strong recognition and is widely **used by installers** all around the world to showcase their excellence
- Latest research shows, that the strong surge in demand for solar and storage technologies across numerous countries requires **installers to expand their product portfolio**
- To succeed in growing markets, it is of utmost importance for suppliers to get **on the radar of top-volume installers**



Market Leadership Study© The United States 2023

	Price
Market Leadership Study© The United States 2023 - 150+ slides report	<input type="checkbox"/> 8,900 USD 7,900 USD*
Optional add-on: Online presentation of the study results	<input type="checkbox"/> 800 USD
*Early bird offer valid till October 27, 2023 Please notice: Payment terms: 100% upon order.	

Please return per scan and e-mail to:
d.fuchs@eupd-research.com

Name: _____

Company: _____

Street: _____

ZIP-Code / City: _____

Phone: _____

E-Mail: _____

Tax-ID: _____

☐ We accept the general terms and conditions (pages 17 and 18)

Signature: _____

EUPD RESEARCH | Market Research, Certification, Exclusive Consulting

EUPD Research

Market Research

- Market Analyses
- Competition Analyses
- Product Analyses
- Price Analyses



EUPD Research

EUPD Cert

Certification

- SolarProsumerAward®
- Top Brand PV® | Top PV Supplier®
- Energy Transition Award
- Customer Satisfaction



EUPD Consult

Exclusive Consulting

- Strategy Consulting
- Within the scope of strategic consulting projects, we focus on the review, further development or redevelopment of the company's orientation, we rethink concepts, measures or the positioning within the competitive environment and shape growth paths and business models
- Our future-oriented consulting services analyze both the corporate environment and the fundamental objectives of the client

EUPD RESEARCH | References (Selection)



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General Terms and Conditions of Business 1/2

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 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.

General Terms and Conditions of Business 2/2

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.

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

5.4 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 2020