

Information paper

Effects on punitive tariffs on the solar economy

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Executive Summary: Impact of punitive tariffs on the solar economy

This paper highlights the negative effects of tariff-based trade restrictions on the European solar economy and the energy transition. Minimum prices and punitive tariffs on solar components from third countries would trigger a cascade of adverse effects. As a result, the European and German solar expansion targets would be missed. Eventually, tariffs could have the opposite effect: instead of strengthening the industry it would be weakened. Essentially, the following negative effects could materialize:

More expensive modules: Minimum prices and punitive tariffs mean that imported components become more expensive for buyers. A duty rate of 25% means that the modules would be 3.75 ct/Wp or €37.5/kWp more expensive. A tariff rate of 50 % means that the modules would be 7.50 ct/Wp or 75 €/kWp more expensive.

Failure to meet expansion targets: Based on the current level of PV expansion in Germany of an estimated 14 GW by the end of the year¹, which will continue to rise over the next few years, expansion capacities of initially at least 10 GW per year would be lost. This, for example, would make the German government's target of adding 22 GW of solar capacity annually in order to comply with the expansion path set out in the German EEG unrealistic. Tariffs would lead to a reduction in the supply of solar components and/or an increase in material costs. This will primarily affect large PV systems (ground-mounted, large roof systems); a tariff of 25 % could prevent a third of projects in this category. However, the small system segment would also suffer; a tariff of 50% could prevent one in four (25%) home PV installations.

Loss of high-quality jobs: Protectionist measures designed to safeguard and increase jobs at European manufacturers (upstream) could lead to job losses at downstream installation and service companies (downstream). This is due to the fact that there is not sufficient production capacity in Europe in the medium term. Project developers and installation companies would then no longer be able to complete orders or accept new orders. This would result in redundancies and the loss of skilled workers - who could be needed again at a later date.

Rising electricity costs: Large PV systems are an important factor for low-cost electricity in Germany and Europe. Increased module prices due to tariffs would have a particularly negative impact on large roof-mounted and ground-mounted systems, as around 1/3 of the costs for these systems are attributable to the modules and have a direct upward effect on the LCOE in line with the increase in module costs.

Stagnating decarbonization: Rising electricity generation costs in the PV sector could prompt companies to switch back to fossil energy sources or to stick with them and invest less in PV systems, which would make Germany and Europe less attractive in the international competition between locations.

Increased burden on the EEG account: It is unlikely that PV systems in the PPA segment will be able to pass on the costs to customers. As a result, the unsubsidized PPA segment could collapse or will need to seek protection via the EEG tender. Changing the form of financing from PPA to EEG would put a strain on the EEG account. In the current tense budgetary and EEG financing situation, such movements should be avoided at all costs.

¹ [20.12.2023](https://www.pv-magazine.de/2023/12/20/photovoltaik-zubau-im-november-bei-118-gigawatt-gesamtjahr-steuert-auf-14-gigawatt-zu/) | <https://www.pv-magazine.de/2023/12/20/photovoltaik-zubau-im-november-bei-118-gigawatt-gesamtjahr-steuert-auf-14-gigawatt-zu/>

Loss of a municipal source of income: Section 6 of the EEG stipulates how municipalities can participate financially in solar parks. Tariffs could lead to these solar parks no longer being built, expanded and upgraded (re-powered). As a result, the municipalities would no longer benefit from the financial participation

Withdrawal of banks and investors: Financing solar energy projects is capital-intensive. Trade uncertainties unsettle banks and investors. This uncertainty leads to higher risk assessments and capital requirements, which makes it more difficult to finance projects and can deter investors.

Less citizen energy and small systems: Rising investment costs could lead to less strong players such as small investors or energy cooperatives coming under pressure in the solar market. This could significantly reduce the diversity of participants in tenders for PV systems and impair the desired competition for the best prices. This contradicts the principles of the energy transition and the EEG, which support a broad diversity of players. For this very reason, the acceptance of the energy transition would suffer widespread damage.

Impairment of the hydrogen strategy: The tenders for hydrogen set out in the EEG could be put at stake if solar power becomes too expensive due to tariffs.

Countermeasures by trading partners: The trade restrictions are aimed in particular at Chinese imports. It is to be expected that China, for its part, will impose trade measures. This is not a good prospect in view of the tense European-Chinese relations and in view of the global supply chain challenges.

Introduction

For some time now, politicians, industry representatives, journalists and analysts have been discussing trade policy measures for imported solar components. These measures, such as minimum prices and punitive tariffs, would be directed primarily against China. However, there is a number of objective factors and developments that led to the current situation:

High stock levels are the result of normal market dynamics.

In the last months there has been a spike in the volume of Chinese import modules on the European market. This is related to the fact that suppliers' warehouses have reached their full capacity. However, we see two normal, market—based reasons for this: While modules with older PERC cells are piling up in the warehouses, modules with TOPCon cells are continuously increasing their market share, because they ensure enormously more efficient power transmission.

In addition, the 2022-23 installation figures are below expectations from the previous year. Excess stocks of old modules coupled with better new modules are leading to normal sell-off effects of "discontinued items". In the "fire sale", the motto is "cash flow before profit". In the meantime, Chinese export volumes have already fallen, by 32% in July and August 2023 compared to the previous months.

History teaches us that tariffs lead to a lose-lose situation.

Another reason (2) for discussing tariffs is the difficult economic situation of European solar component and module manufacturers. Some participants in the discussion are of the opinion that tariffs on imported modules would strengthen and protect European manufacturers. In fact, such protective tariffs run the risk of achieving the opposite of what they are intended to achieve. The punitive tariffs imposed in 2013 have failed to effectively protect the German solar industry. In fact, numerous companies from the manufacturing sector filed for insolvency during or after this phase, most notably SolarWorld. Tariffs were also introduced on solar glass at the time. However, this in no way led to the emergence of a flourishing solar glass industry. On the contrary. There are only a few manufacturers left producing expensive solar glass, including GMB Glasmanufaktur Brandenburg.

We are convinced that protectionist measures such as protective tariffs are still not a suitable instrument for saving German and European manufacturers. The appropriate instruments for this are targeted support measures, which are possible within the framework of (reformed) European state aid schemes and specific resilience tenders.

Tariffs are amongst the sharpest measures of trade policy. The countries affected by punitive tariffs could respond with trade restrictions and retaliatory measures. This closes the space for constructive dialog and constructive policies.

This paper deals with the negative consequences of tariffs on the European solar economy and the expansion of solar energy. The exact consequences of tariffs and the exact cascade of problems they will trigger will depend on the extent to which the price increases from tariffs are passed on to consumers. The bottom line, however, is that tariffs will lead to

- A slowing down of solar deployment and falling short of targets,
- The loss of high-quality jobs in the solar economy,
- An increased financial burden on households and taxpayers,
- A weakening of the solar economy in Germany and Europe.

The effect of tariffs on the solar economy

The modules are significantly more expensive

Minimum prices and punitive tariffs mean that imported components become more expensive for buyers. A duty rate of 25% means that the modules would be 3.75 ct/Wp or €37.5/kWp more expensive. A tariff rate of 50 % means that the modules would be 7.50 ct/Wp or 75 €/kWp more expensive.

This means that PV system installers will incur additional costs between €37.5 and €75 million for every additional gigawatt (GW) installed. In Germany, some 14 GW of new PV is to be installed in 2024. With tariffs, the targeted expansion of 14 GW in 2024 would be between 525 (tariff rate 25%) and 1.050 (tariff rate 50%) million euros more expensive. This would continue for all subsequent years in which import duties apply. The costs of the individual years add up and continue as follow-up costs for 20 years.

It could now be argued that these (economic) additional costs would be compensated for by the fact that supporting domestic production would also increase tax revenues through more added value and increased employment. However, the tariffs of 2013 to 2018 have not led to this outcome. In addition, a positive effect on employment could quickly fizzle out if the measures taken do not guarantee the stability and competitiveness of the European solar industry in the long term.

Higher module prices are slowing down expansion

We estimate that the planned expansion in the ground-mounted segment will decrease by around 30% with a tariff of 25% on the import price. With a tariff of 50% on the import price, we expect a 60% reduction in expansion.

The module costs are part of the investment costs of PV systems. The price of PV modules accounts for a higher proportion of large ground-mounted PV systems than roof-mounted systems. However, higher module prices also have an impact on roof systems. With a duty of 25 % on the import price, we expect a reduction in expansion of 12.5 % and with a duty of 50 %, a reduction in expansion of 25 % for rooftop systems.

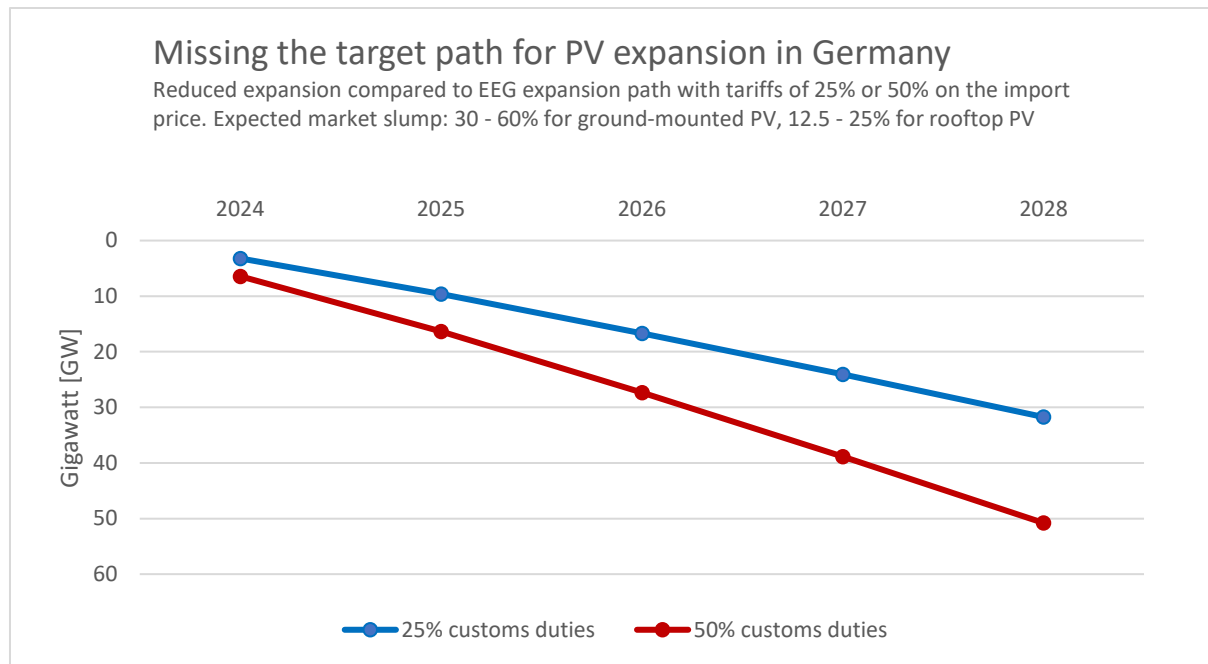


Fig. 1: Missing the target path compared to the EEG expansion path due to reduced PV expansion with tariffs of 25% or 50%. Depending on the level of tariffs (or equivalent measures), a decline in expansion of 30% to 60% is assumed for ground-mounted systems and 12.5 - 25% for roof-mounted PV systems (determined by market survey), resulting in a cumulative decline in expansion that is offset against the EEG medium-term forecast 2024-2028, which also distinguishes between the expansion of roof-mounted and ground-mounted systems for the next few years. Source: Own calculations, market surveys, EEG medium-term forecast 2024-2028 ([link](#))

The estimated slump in expansion over the next 5 years alone will result in a loss of approx. 30 - 50 GW of installed capacity compared to the EEG expansion path, depending on the import tariff level. The development of systems with currently higher costs due to their design or concept, such as forms of agricultural PV, biodiversity PV, peatland PV or the development of new marketing or energy sharing concepts in the roof system sector, would be slowed down considerably because many companies in the PV sector would (have to) become more risk-averse and could come under economic pressure. However, alternative concepts such as self-consumption in the commercial and industrial sector will also become unattractive in many cases, or projects will become too risky for investors.

In 2013, the number of installations was expected to decrease by around 25%. In fact, it decreased by up to 75% between 2013 and 2018. Currently PV deployment in Germany is estimated at 14 GW by the end of the year² and is expected to rise over the next few years. If tariffs were to be introduced capacity additions are expected to decrease at least by 10 GW per year. This means that the annual expansion of 22 GW of solar capacity targeted by the German government in order to comply with the expansion path set out in the German EEG is unrealistic.

² [20.12.2023](https://www.pv-magazine.de/2023/12/20/photovoltaik-zubau-im-november-bei-118-gigawatt-gesamtjahr-steuert-auf-14-gigawatt-zu/) | <https://www.pv-magazine.de/2023/12/20/photovoltaik-zubau-im-november-bei-118-gigawatt-gesamtjahr-steuert-auf-14-gigawatt-zu/>

The slowdown in expansion leads to job losses

Minimum prices and tariffs on solar components make systems more expensive - so expensive that systems are not even built. This leads to job losses, especially in the downstream industry.

Solar Power Europe (SPE), the European solar association, estimates that there will be around 648,000 solar jobs in the European Union in 2022, a good 100,000 of them in Germany. The rooftop systems sector is twice as labor-intensive as the large-scale systems sector.

Conservative forecasts predict an increase to 805,000 solar jobs in the EU by 2023 and 1.2 million by 2027. Only seven percent of these solar jobs are in production. The majority of these are in the "inverter" sector, i.e. in companies such as the currently fast-growing SMA Solar AG. Job growth is and will be driven by the development, construction and maintenance of PV systems, which will account for around 1 million jobs by the end of 2027.

There are currently "only" 8,188 solar jobs in the ingot, wafer, cell and module value chain, which is organized in the European Solar Manufacturing Council (ESMC), among others. Assuming that announced new and expansion investments in these stages of the value chain are realized, this figure will reach around 50,000 in 2027. However, less than 1 GW of these new and expansion investments totaling around 35 GW (at module level), which have been announced for years, have been realized to date.³

Arbeitsplätze in der Photovoltaik-Branche in Europa

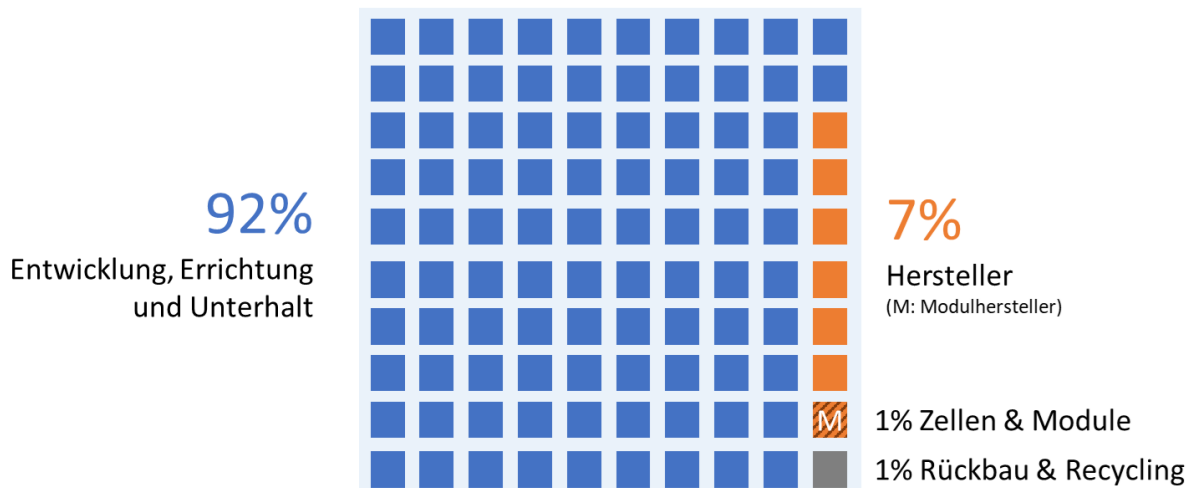


Fig. 2: Distribution of jobs in the entire photovoltaic industry in Europe, broken down into development/installation/maintenance of PV systems, manufacture of modules and inverters and dismantling/recycling. Source: <https://www.solarpowereurope.org/insights/thematic-reports/eu-solar-jobs-report-2023-1>, Source: https://api.solarpowereurope.org/uploads/1823_SPE_Jobs_report_09_0953d35b2a.pdf

If employees are made redundant due to tariffs, they could be lost to the German solar economy in the long term. In view of the tight market for skilled workers in the economy as a

³ EU Commission, Joint Research Center (10/2023) | Photovoltaics in the European Union, PV manufacturing capacity expansions until 2025, https://setis.ec.europa.eu/photovoltaics-european-union-0_en

whole, it can be assumed that workers and skilled workers will migrate to other sectors where they would be gratefully received and retained. Following the dip in expansion between 2013 and 2018 and the current economic policy uncertainty (e.g. climate and transformation fund, continuation of the Green Deal), some workers are likely to consider whether they want to pursue a career in the solar economy anyway.

From 2011 to 2014, two out of three solar jobs were lost in Germany. Over 100,000 people lost their jobs in Germany (see Fig. 2)⁴ and this despite the fact that German manufacturers had a significant share of the global market at the time import restrictions were introduced. Today, some stages of the module manufacturing value chain no longer exist. If trade barriers were to be reintroduced, jobs would largely be lost in the areas of development, construction and maintenance, or they would not even be created in these currently fast-growing segments.

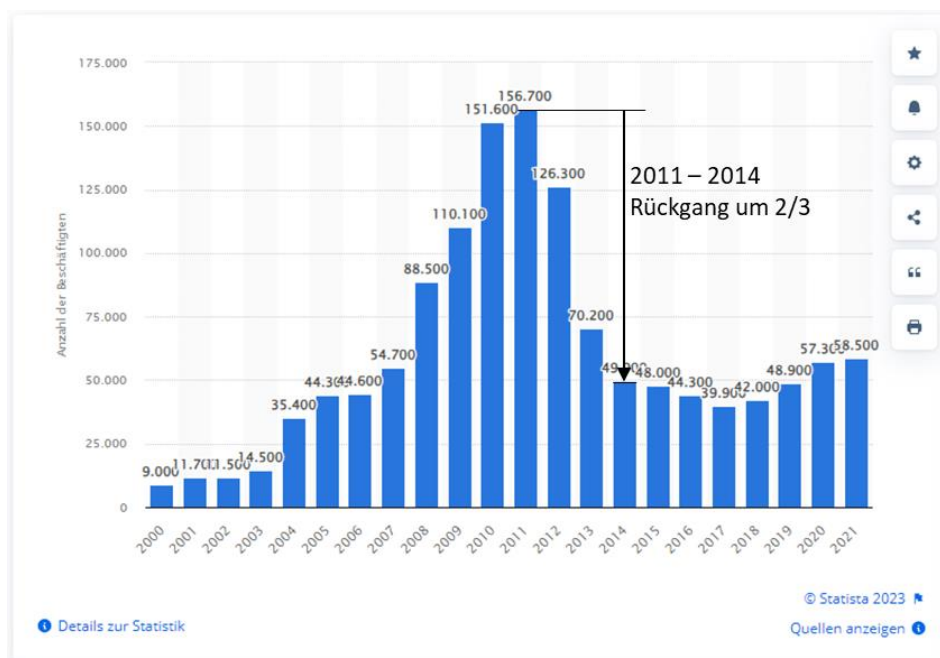


Fig. 3: The number of jobs in the PV industry in Germany fell by around 2/3 from 2011 to 2014 following the introduction of trade barriers. Source: <https://de.statista.com/statistik/daten/studie/13589/umfrage/anzahl-der-arbeitsplaetze-in-der-solarenergiebranche-in-deutschland/>

Investors are unsettled by customs duties

Due to (potential or actual) trade barriers, banks will assume higher investment costs in their risk assessment and demand higher equity shares. This will generally make it more difficult to finance solar projects, and for smaller players it may no longer be possible at all.

The energy transition is very capital-intensive. 1 GW of solar power costs around €650 million on open spaces and between €850 million and €1.3 billion on roofs, depending on the size. These funds can only be mobilized with financial intermediaries such as banks. These lenders are currently acting rather

⁴ <https://de.statista.com/statistik/daten/studie/13589/umfrage/anzahl-der-arbeitsplaetze-in-der-solarenergiebranche-in-deutschland/> , and. <https://www.handelsblatt.com/unternehmen/energie/deutsche-solarbranche-es-werde-wieder-licht/19875452.html>

cautiously. Even the hint of duties is likely to be viewed critically in the risk analysis departments. The initiation of anti-dumping investigations could make financing projects completely impossible. On the equity side, too, investments could be allocated to other, more lucrative areas or international regions. The significant rise in interest rates on the capital market over the last two years has already meant that investors' benchmarks have had to be raised considerably. The effects of higher interest rates have been partially offset by price reductions on the module side. If, as already described for the banks, the risk premium now also increases on the equity side due to uncertainty and at the same time module prices are drastically increased due to tariffs, it is to be expected that the financing basis for unsubsidized PPA projects will collapse, if not come to a complete standstill.

Domestic production of hydrogen will be difficult

Large solar parks can produce electricity for the production of green hydrogen. Increased module prices affect the profitability of these plants.

In the update of the National Hydrogen Strategy, the target for domestic electrolysis capacity in 2030 is increased from 5 GW to at least 10 GW. From these numbers the German Institute for Economic Research (DIW) derives a domestic production volume of 28 TWh of green hydrogen in 2030. This would require around 40 TWh of additional electricity from renewable energies, which corresponds to around seven percent of Germany's total gross electricity consumption in 2022.⁵ Solar parks could supply the electricity for electrolysis. However, only if the solar parks are actually built and are not prevented due to additional costs caused by customs duties.

Trade policy countermeasures

A sanction rarely comes alone. It can be assumed that trade measures from Europe will not go unanswered. China in particular would be affected by trade barriers and would in turn take trade measures that could cause major damage to the European and German economy.

Political relations between the EU and China are currently tense and the economic policy dialog is under pressure. For example, China already regards the Carbon Border Adjustment Mechanism (CBAM) as a green trade barrier. China is also extremely critical of the anti-dumping investigation into electrical equipment. China could respond to punitive tariffs on Chinese solar components with trade policy countermeasures and retaliatory measures in the solar sector or in other economic sectors.

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https://www.diw.de/de/diw_01.c.882347.de/publikationen/wochenberichte/2023_41_1/nationale_wasserstoffstrategie_konsequent_und_mit_klarem_fokus_umsetzen.html

India and the USA already experience negative effects

The USA, which, unlike Europe, already had a domestic industry that could supply at least around 20% of the domestic market when import duties and other trade restrictions were introduced, is seeing precisely the significant increase in PPA prices described above, which can be attributed partially to the trade barriers.

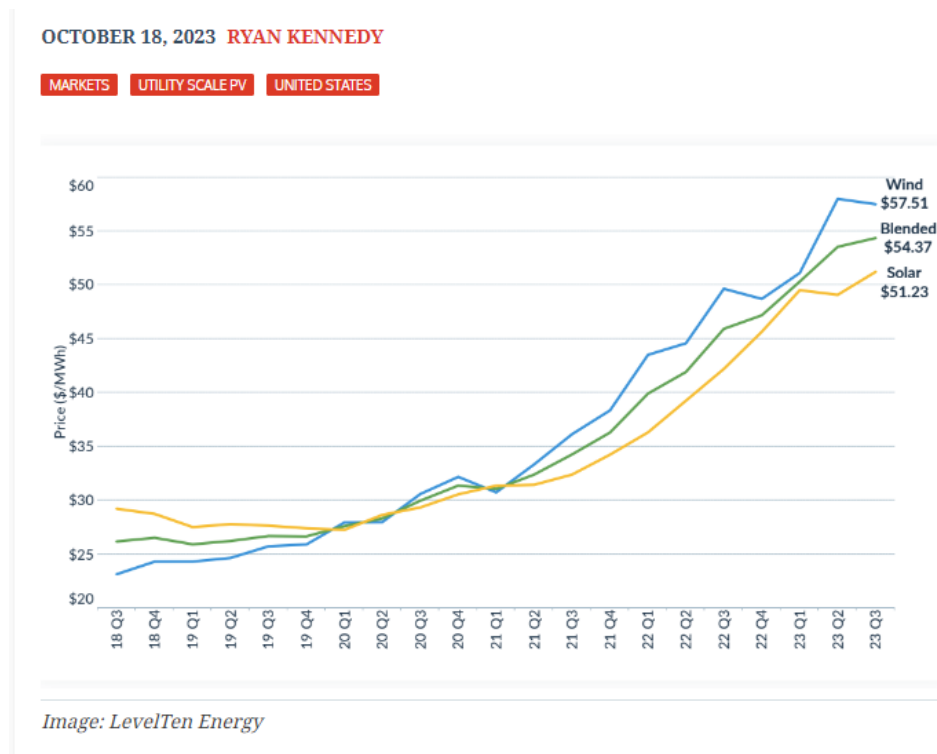


Fig. 4: USA: PPA prices for PV and wind energy, and significant increase during the period of trade restrictions. Source: <https://www.pv-magazine.com/2023/10/18/levelten-energy-records-4-increase-in-north-american-ppa-prices-in-q3/>

Alongside the USA, India is often cited as a "good example" of a solar policy. Reference is made to the planned development of a strong domestic photovoltaic industry. And similar to the situation in the USA with its Inflation Reduction Act (IRA), India has fueled the growth through promises for very high subsidies. In contrast to the USA, India had already had a production base for crystalline solar cells and modules for many years, albeit a small one. Nevertheless, the introduction of tariffs, accompanied by constantly changing requirements and regulations and the introduction of local content requirements did not lead to the establishment of sufficiently large domestic production and the desired market growth. On the contrary: in the first half of 2023, there was a sharp drop in the solar market's numbers, between 15 and 50 percent, depending on the analyst, to a very low deployment rate of only between 3.6 and 6.8 gigawatts⁶. As a result, the import of modules from China was temporarily permitted. The increase in installations in the second half of the year can be attributed to the fact that stricter protectionist measures are expected next year.

⁶ <https://www.pv-magazine.de/2023/10/25/indien-voellig-unberechenbare-photovoltaik-politik-fuehrt-zu-minus-15-bis-50-prozent-zubau-im-ersten-halbjaehr/>

Differentiated consideration of the effect of tariffs in the EEG area

The EEG secures the capital-intensive financing of PV systems through subsidies. The presence of trade barriers will increase the costs of photovoltaic systems. Because PV expansion is largely financed by credit, securing these investments will also become more expensive. Subsidy costs under the EEG will rise for various reasons:

Costs are priced into bids: The higher the module costs, the higher the bids in the tenders must be in order to compensate these additional costs. Depending on the level of tariffs, the maximum bidding values would have to be raised so that enough bids are submitted to exhaust the tender volume.

Fewer PPAs, more EEG tenders: If solar parks participate in EEG tenders due to the increased costs for PPA projects, they will no longer be eligible for subsidies. The effect is even double disadvantageous in terms of subsidy costs, as usually the PPA volume would currently be deducted from the total tender volume. In short: more surcharges would be awarded at higher costs.

More expensive safeguarding of competition: In the event of a continued signing of PV tenders, in which competition would have to be safeguarded by endogenous volume control, there would be a greater need for support, as the average bid prices would rise due to the increased costs.

Increased funding requirements for fixed remuneration: The changed costs cannot be priced in for small systems with fixed remuneration (small roof systems and roof-mounted or ground-mounted systems under one MW). The attractiveness of the investment decreases or would have to be compensated for by higher remuneration.

Increased costs of the EEG in the long term (tendering): Higher surcharge values for new installations also mean higher market premiums and thus an additional burden on the state budget, i.e. ultimately the taxpayer. We anticipate an increase in costs of 0.375 and 0.75 cents per kWh for 25% and 50% tariffs on modules respectively. This means that around 6% to 12% higher market values are required for the same systems, based on the results of the most recent auctions in the ground-mounted PV segment. ⁷

If a market slump in photovoltaics is to be prevented and the current expansion momentum maintained, these higher LCOE would have to be "fully absorbed" via the EEG account at the expense of the general public. This would result in additional costs of €3.75 to €7.5 million per GW and year, regardless of the form of support. With a subsidy period of 20 years for PV systems, this would mean additional costs of €75 - €150 million for each additional gigawatt of PV electricity subject to tariffs. Based on the tendering volume of 7.3 GW in 2023, the annual additional costs would amount to between €27.5 and €55 million and the cumulative additional costs over 20 years would be between €550 million and €1,1 billion. This additional annual burden on the EEG account would also accumulate over the years of the tariff period. At the moment the tendering volume is foreseen to increase to 10 GW per year. The additional burden on the EEG account increases accordingly. If the increased investment costs mentioned above are passed on in this scenario, there will be negative effects on the electricity price and the demand for renewable electricity from PV as discussed in the next section. The scenario assumes that the state is prepared to "shoulder" the additional costs via the EEG account.

⁷ Average, volume-weighted award value of the PV tender from June 2023: 6.47 ct/kWh.
<https://www.bundesnetzagentur.de/DE/Fachthemen/ElektrizitaetundGas/Ausschreibungen/Solaranlagen1/BeendeteAusschreibungen/Ausschreibungen2023/Gebotstermin01072023/start.html>

Increased costs of the EEG in the long term due to feedback effects: In addition, the burdens on the EEG account increase due to interactions. For example, some values in the EEG are calculated from the average award values of the EEG auctions. Specifically, permissible maximum bid values in the PV tenders would fall less quickly. As a result, the remuneration entitlement for PV systems >1 MW (e.g. citizen energy) would also remain high due to the higher average award values in the PV tender, which would trigger permanently higher market premium payments to these systems.

Additional economic costs: Assuming an expansion of a further 140 GW by 2030 (calculated from today, corresponding to the EEG target value of 215 GW until 2030) and a tariff applied in the remaining 2020s (25% - 50%) to "protect the European solar economy" (specifically: only the manufacturers), additional economic costs of €10.5 - €21 billion would be caused by the EEG, which would affect the federal budget. In the scenario described here, the additional costs are incurred in Germany alone in order to maintain the expansion. Assuming that the German market accounts for around 15% of the European market and that the same scenario would be applied to Europe, it would result in increased costs for the expansion of photovoltaics across Europe of 70€ - 140€ billion.

Decreasing diversity of players: One of the achievements of the energy transition and the EEG was the opportunity for a wide variety of players to get involved and drive the energy transition. Rising investment costs are increasing the pressure on less strong players in the market, such as energy cooperatives. There is a risk that the diversity of participants in tenders for PV systems will be significantly reduced. This would also reduce the intended competitive pressure to obtain the economically optimal prices.

Loss of municipal revenues: Based on the above assumption that the annual expansion is reduced by 10 GW and that 60% (6 GW) of this relates to ground-mounted photovoltaic systems, there will also be a considerable loss of income for municipalities, usually in structurally weak regions. The loss of municipal participation alone in accordance with Section 6 EEG (0.2 ct/kWh) adds up to €2 million per GW per year. Some German Lands are planning solar levies of the same amount. In Brandenburg, for example, a corresponding solar levy law was debated at first reading on October 19. On the municipal side, the loss of revenue from these two components alone would amount to €24 million per year or €120 million over 5 years for approx. 6 GW. Only a single year is considered here, in which 6 GW of expansion is missing. The shortfall in income for local authorities mentioned above is permanent and adds up with each year of low expansion. Ground-mounted systems that are not built will not generate any corresponding levies or business and property tax revenue. Increases in investment costs based on tariffs also have the negative effect of increasing the depreciation base for companies. As a result, the annual depreciation increases and profits are reduced at the expense of federal and state tax revenue.

Differentiated view of the effect of customs duties in the PPA area

Power purchase agreements (PPAs) are electricity supply contracts that regulate the sale of electricity between producers and consumers over a fixed period of time. PPAs offer price and calculation security for both contracting parties. PPAs are also referred to as "unsubsidized" projects, which indicates that neither the EEG nor the market premium play a role here. Today, at least 3.5 GW of photovoltaics are assigned to this form of marketing, and the trend is rising.⁸

⁸ Monitoring of direct marketing, Quarterly Report 03/2023 | https://www.oeko.de/fileadmin/oekodoc/Monitoring-der-Direktvermarktung_Quartalsbericht_Q1-2023.pdf

Slump in the PPA market: According to the latest figures from Solar Power Europe (SPE)⁹, modules account for around 37 % of the costs of large-scale systems. Rising investment costs would have to be refinanced on the market by increasing PPA prices. Thanks to clever strategic measures, market prices have fallen back to almost pre-war levels following the price increases caused by the war. The additional costs can therefore not be refinanced on the market. In addition, increased capital and other material costs are a burden on profitability calculations. The effect of increased module prices due to customs duties would therefore have a particularly negative impact. It would be an obstacle to building these systems and the price of electricity in Germany and throughout Europe could rise. This is because large PV systems in particular (especially ground-mounted PV) are the welcome "cheapener" for the price of electricity in Germany and Europe.

Monatsmarktwerte

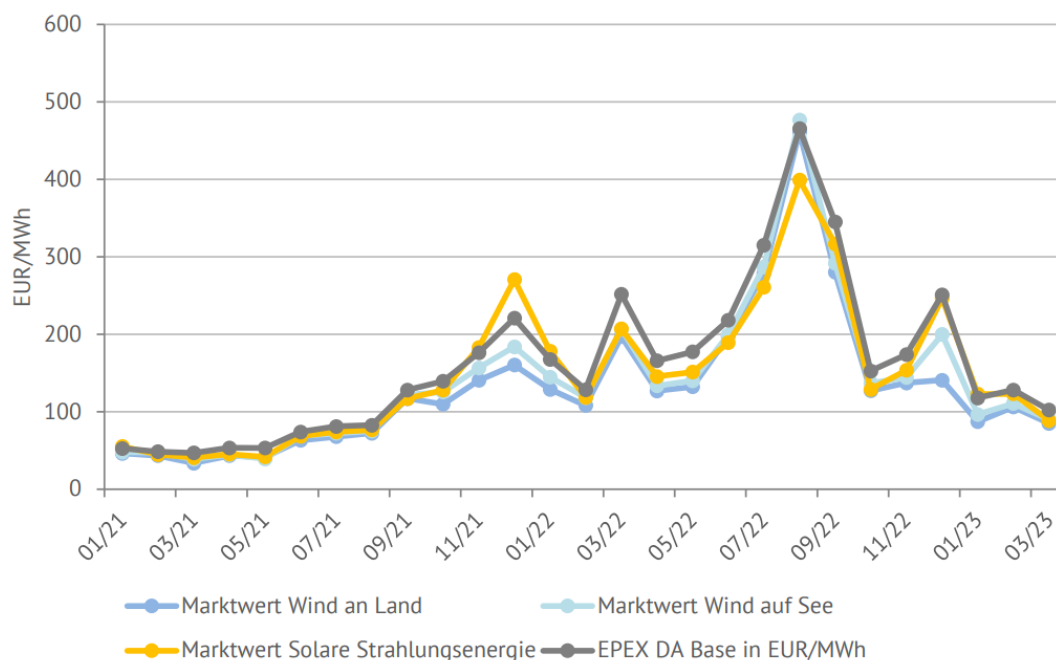


Fig. 5: Development of the market values of renewable energy systems

Source: <https://www.oeko.de/publikation/monitoring-der-direktvermarktung-quartalsbericht-03-2023/>, p. 25

Today, large ground-mounted PV systems can (just barely) finance themselves on the market without subsidies. If costs were to rise as a result of trading restrictions, this form of system financing, as well as other direct marketing without subsidies, would be less attractive or completely uneconomical.

It should be noted that the market value is not yet the purchase price for the green electricity generated. Instead, sales, risk and handling costs are deducted. Depending on the tariff level, even the majority of the PPA market would be eliminated.

ESG reporting is becoming more difficult and more expensive: PPAs are typically used to finance large solar parks. The electricity can be marketed as green electricity. The purchase of this green electricity -

⁹ Source: <https://www.solarpowereurope.org/insights/thematic-reports/eu-solar-jobs-report-2023-1>
Source: https://api.solarpowereurope.org/uploads/1823_SPE_Jobs_report_09_0953d35b2a.pdf

with guarantees of origin - is important for customers (mostly industry) who want the contracted green electricity in their ESG reporting. Rising module prices lead to fewer PPAs with higher project costs and therefore to higher electricity costs for customers.

Political goals are thwarted: The objective of the EU Commission and the German government to contribute to lower electricity prices in the EU via PPAs would be directly thwarted. The damage to PPAs would be significantly greater than the benefits that the current EU electricity market reform measures are intended to bring about.