




## POLICY PAPER


# How Can the EU Address Its Dependence on Chinese Solar Panels?



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## Background

In an era marked by increasing uncertainty and geopolitical competition between major powers, the concept of strategic autonomy has gained prominence within the European Union (EU). It first appeared in EU Council conclusions in 2013 and rose to the forefront in the 2016 Global Strategy. It aims to empower the EU to act autonomously, reducing susceptibility to external coercion, while enabling multilateral cooperation when possible<sup>1</sup>. However, achieving strategic autonomy becomes increasingly difficult for the EU, notably due to its reliance on energy imports, which accounts for almost 60% of its energy<sup>2</sup>. This dependence on fossil fuel supplies, with Russia as the largest contributor, has compelled the EU to prioritise energy security over assertive foreign policy actions, shaping a prevailing trend in EU external relations. Over the past two decades, the EU's energy import dependency has steadily grown<sup>3</sup>, further complicating its pursuit of strategic autonomy.

The disruptive effects of Covid-19 over global value chains and Russia's war in Ukraine have brought strategic autonomy to the forefront and forced the EU to reconsider its energy dependence. Diversifying supply of fossil fuels in the short term and investing in renewables have emerged as a long-term solution to phase out dependence on Russian fossil fuels<sup>4</sup>. There have been considerable investments on renewables to ensure energy security in the continent<sup>5</sup>, which generated around 24% of electricity in the EU and saved around €11bn in gas costs in 2022<sup>6</sup>.

Among the renewable sources of energy used by the EU solar is the fastest growing energy source and could become the EU's biggest source of energy. However, solar deployment can be compromised because of the EU's reliance on China, which provides three quarters of its solar panels<sup>7</sup>. While investment on renewables should cut EU dependence on fossil fuels and countries that compromise the EU's strategic autonomy, this renewed reliance on China risks undermining EU goals. Particularly, because of rising political tensions and unresolved economic disputes with China. Replacing its dependence on Russian gas with Chinese solar panels, its reliance on China now poses a new risk to EU energy security.

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<sup>1</sup> Damen, M. (2022) EU strategic autonomy 2013-2023: From concept to capacity. [https://www.europarl.europa.eu/thinktank/en/document/EPRS\\_BRI\(2022\)733589](https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI(2022)733589)

<sup>2</sup> European Environment Agency (2023, July 4). *Energy: Key facts*. <https://www.eea.europa.eu/en/topics/in-depth/energy>

<sup>3</sup> Eurostat (2023, May). *Energy Statistics - an overview*. [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Energy\\_statistics\\_-\\_an\\_overview#Energy\\_dependency](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Energy_statistics_-_an_overview#Energy_dependency)

<sup>4</sup> General Secretariat of the Council (2022, March 25). *European Council meeting (24 and 25 March 2022) – Conclusions*. <https://data.consilium.europa.eu/doc/document/ST-1-2022-INIT/en/pdf>

<sup>5</sup> Council of the EU (2023, February 7). *Climate change: what the EU is doing*. <https://www.consilium.europa.eu/en/policies/climate-change/#finance>

<sup>6</sup> De Pous, P., Patuleia, A., Brown, S. & Rosslove, C., (2022) *EU's record growth in wind and solar avoids €11bn in gas costs during war*. E3G-EMBER. <https://ember-climate.org/press-releases/eus-record-growth-in-wind-and-solar-avoids-e11bn-in-gas-costs-during-war/>

<sup>7</sup> De Marie, O. (2023, September 17). *Europe's Solar Industry at Risk of Bankruptcies Due to Influx of Cheap Chinese Imports*. <https://microgridmedia.com/europes-solar-industry-at-risk-of-bankruptcies-due-to-influx-of-cheap-chinese-imports/>

# HOW CAN THE EU ADDRESS ITS DEPENDENCE ON CHINESE SOLAR PANELS?

The EU has had a complicated relationship with China and its solar panels, which has gone from imposing tariffs and entering a trade dispute<sup>8</sup> to rely on Chinese producers for its energy transition. But this has come at a great cost to European solar panel producers which have been unable to compete with China's cheap mass production and has brought the sector to bankruptcy<sup>9</sup>. Europe has lost the competitiveness it once held as the largest solar panel manufacturer, being surpassed by China in the last ten years. Now China holds control over production and processing of polysilicon and has become a critical supplier of raw materials and solar panels for Europe<sup>10</sup>.

This dependence not only poses a risk for EU energy security but also for its ability to act autonomously. This has been a pervasive trend in its relationship with China in the past, in which the EU has tended to prioritise economic gains over its external policy. In the past, the position of the EU on solar panels has been compromised by most EU governments -led by Germany- which have held their trade interests with China as a bigger priority<sup>11</sup>. These choices have complicated its relationship with its allies, such as the US, which are trying to shift clean energy supply chains away from China under the Reduction Inflation Act<sup>12</sup>.

The EU has held some concerns over China's control over raw materials, and the human rights abuses associated with their exploitation in China<sup>13</sup>. But the dependence of the EU and its previous compromises on China bring to question whether the EU can act autonomously, or if it will continue to compromise its strategic autonomy and its values. Therefore, this policy paper will answer: how can the EU address its dependence on Chinese made solar panels and maintain its strategic autonomy?

## Current State of Play

The main problem for the EU energy security is that for a long time it has relied on market forces to solve its problems while removing geopolitics from the equation<sup>14</sup>. This has led to an over-reliance on external suppliers, and a generalised insecurity in EU energy supplies, instead of building and investing on internal capacities. These have also been the results observed in the solar energy sector, which has suffered from an over reliance on cheap Chinese materials and panels.

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<sup>8</sup> European Commission (2023, June 4). *EU imposes provisional anti-dumping tariffs on Chinese solar panels*. [https://ec.europa.eu/commission/presscorner/detail/en/IP\\_13\\_501](https://ec.europa.eu/commission/presscorner/detail/en/IP_13_501)

<sup>9</sup> Jack, V. (2023, September 11). *Solar sector calls for €100M EU bailout as China pushes it to the brink*. Politico EU. <https://www.politico.eu/article/eu-solar-sector-bailout-china-competition/>

<sup>10</sup> RystadEnergy (2023, July 20). *Europe hoarding Chinese solar panels as imports outpace installations; €7 billion sitting in warehouses*. <https://www.rystadenergy.com/news/europe-chinese-solar-panels-imports-installations-storage>

<sup>11</sup> Emmott, R. & Blanchard, B. (2013, July 27). *EU, China resolve solar dispute - their biggest trade row by far*. <https://www.reuters.com/article/us-eu-china-solar-idUSBRE96Q03Z20130727>

<sup>12</sup> Ruiz Guix, P. (2023). *Key transatlantic implications of the Inflation Reduction Act*. *Real Instituto el Cano*. <https://www.realinstitutoelcano.org/en/analyses/key-transatlantic-implications-of-the-inflation-reduction-act/>

<sup>13</sup> Yuan, Y., Hancock, A., & Pitel, L. (2023, March 23). *Solar power: Europe attempts to get out of China's shadow*. Financial Times. <https://www.ft.com/content/009d8434-9c12-48fd-8c93-d06d0b86779e>

<sup>14</sup> Youngs, R. (2009). *Energy security: Europe's new foreign policy challenge*. Routledge.

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Unlike the US, the EU has attempted to de-risk but not decouple from China, which implies continuing to work and trade on clean technologies and push for a level playing field with China<sup>15</sup>. The current policies of the EU to tackle its dependence on China could also contribute to strengthen the EU's strategic autonomy. The policies range from regulations banning products produced with forced labour, the control of foreign subsidies, to regulations that ensure access to a secure and sustainable supply of critical raw materials.

The first measure put in place was the ban on products produced with forced labour, which covers products made in the EU, exports, and imported goods<sup>16</sup>. The measure should work alongside the corporate sustainability due diligence directive. It requires companies to establish due diligence procedures to address corporate impact on human rights and the environment<sup>17</sup>.

Both measures have a direct effect on the solar panel industry which either relies on imported materials from China or just imports assembled Chinese panels. Most polysilicon factories are concentrated in China, with some still located in Xinjiang, which has allegedly forced Uyghurs to produce polysilicon. Currently, these factories are responsible for 42% of the world's production of raw solar materials<sup>18</sup>. Although these measures are welcome, they are still delayed in their implementation in comparison to the U.S. ban on imports containing content produced in Xinjiang adopted in 2022<sup>19</sup>. In the meantime, Chinese companies have reacted by moving their operations to Inner Mongolia.

With human rights concerns covered, there are concerns remaining over the unlevelled competition between European and Chinese producers. The EU has attempted to tackle this through its foreign subsidies' regulation, which sets new rules to address the distortions caused by foreign subsidies in the internal market<sup>20</sup>. Chinese companies are known to receive subsidies by their government, which in combination with lower salaries and loose regulations makes Chinese products cheaper and more competitive in the European markets. Particularly, the Chinese solar power industry received subsidies over the past decade that placed it in the advantageous position it currently holds<sup>21</sup>. These measures could make a difference over the competitiveness of the European solar panel sector providing some protections, but for the meantime it will still be less competitive.

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<sup>15</sup> Von der Leyen, U. (2023, January 17) *Special Address by President von der Leyen at the World Economic Forum*. European Commission. [https://ec.europa.eu/commission/presscorner/detail/en/speech\\_23\\_232](https://ec.europa.eu/commission/presscorner/detail/en/speech_23_232)

<sup>16</sup> European Commission (2022, September 14) *Commission moves to ban products made with forced labour on the EU market*. [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_22\\_5415](https://ec.europa.eu/commission/presscorner/detail/en/ip_22_5415)

<sup>17</sup> European Commission (2022, February 23). *Corporate sustainability due diligence*. [https://commission.europa.eu/business-economy-euro/doing-business-eu/corporate-sustainability-due-diligence\\_en](https://commission.europa.eu/business-economy-euro/doing-business-eu/corporate-sustainability-due-diligence_en)

<sup>18</sup> Wang, S., Lloyd, J. & Nunez-Mujica, G. (2022). Confronting the Solar Manufacturing Industry's Human Rights Problem. *The Breakthrough*. <https://thebreakthrough.org/issues/energy/sins-of-a-solar-empire>

<sup>19</sup> U.S. Customs and Border Protection (2022, June 21). *Uyghur Forced Labor Prevention Act UFLPA*. <https://www.cbp.gov/trade/forced-labor/UFLPA#:~:text=The%20UFLPA%20was%20enacted%20on,U.S.%20importation%20under%2019%20U.S.C>

<sup>20</sup> European Commission (2023, January 12) *Foreign Subsidies Regulation: rules to ensure fair and open EU markets enter into force*. [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_23\\_129](https://ec.europa.eu/commission/presscorner/detail/en/ip_23_129)

<sup>21</sup> Plasschaert, S. (2016) Assessing the Solar Energy Dispute between the European Union and the People's Republic of China. *European Centre for International Political Economy*. <https://ecipe.org/publications/the-solar-energy-dispute-between-eu-china/>

A measure that stands to strengthen strategic autonomy and energy security is the Critical Raw Materials Act, which aims to ensure access to a secure and sustainable supply of critical raw materials<sup>22</sup>. The reaction of China to this measure and Member States related measures, such as the Netherlands ban on export of chip printing equipment, was to ensue export controls on gallium and germanium, two minerals used in the making of microchips.

The EU's move to secure raw materials holds promise to strengthen its energy security in the long term. However, this strategy also underscores the EU's vulnerability, as it excludes polysilicon from the list of raw materials, given that a significant portion of its production is concentrated in China. The EU faces ongoing challenges stemming from its dependence on China and seems to downplay the growing risks associated with this dependence.

This policy stance is based on the 2019 Strategic Outlook, which classifies China as a partner for cooperation, an economic competitor, and a systemic rival. Subsequently, the relationship between these two powers has deteriorated, with recent attention turning to trade conflicts marked by retaliatory measures. This relationship may only worsen as competitiveness escalates, especially considering the increasing importance of solar panels for the EU, a sector crucial for competing with Chinese producers. Thus, the aim of this policy paper is to provide some recommendations to help the EU to effectively reduce its dependence on Chinese solar panels, and to enhance its strategic autonomy.

## Policy Recommendations

For the EU to ensure its own energy security in the context of the green transition, it needs to prioritise its solar panel sector, and not fall prey to dependencies that can be easily weaponized by competing actors, such as China. The policy recommendations are geared to strengthen the EU's strategic autonomy and to attain energy security.

### 1. Capacity Building In Solar Panel Production

First and foremost, the EU needs to rebuild its capacities for solar panel production. The European solar panel industry needs to recover production capacity and become more competitive. To reduce its reliance on Chinese solar panels, the EU should focus on fostering the production and research within the European solar panel sector. This can begin by providing subsidies for solar panel production to meet domestic demand and by funding research and development efforts that empower the European solar panel industry to innovate and surpass Chinese producers. The emphasis should be on leveraging the EU's existing strengths rather than trying to replicate the Chinese production model.

### 2. Renew Alliances For Raw Materials

The second policy recommendation, closely linked to capacity building, is a vital measure that can reinforce the EU's strategic autonomy and energy security. The energy transition, designed to enhance

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<sup>22</sup> European Commission (2023, March 16). *Critical Raw Materials Act*. [https://single-market-economy.ec.europa.eu/sectors/raw-materials/areas-specific-interest/critical-raw-materials/critical-raw-materials-act\\_en](https://single-market-economy.ec.europa.eu/sectors/raw-materials/areas-specific-interest/critical-raw-materials/critical-raw-materials-act_en)

the continent's energy security, is a resource-intensive process, and the EU currently faces a shortage of these essential resources. This underscores the critical need for reducing dependency on China, especially because while China may not be the primary producer of these raw materials (obtained from underdeveloped, resource-rich nations), it holds a monopoly over their refining.

As mentioned earlier, this dependence places the EU in a position of vulnerability, often preventing it from taking a strong stance against significant human rights violations by China due to their economic and strategic ties. Hence, the EU should focus on strengthening economic relations with resource-rich and ideologically aligned countries, possibly through revitalizing its ties with the Americas. This strategic move will enable the EU to bolster its autonomy, maintain its core values, and cultivate genuine energy security capabilities.

### **3. Redefining EU-China Relations**

Thirdly, the EU should reevaluate its relationship with China, taking into account the growing economic and resource competition that characterizes their interactions. The current global climate requires a redefinition of this relationship, prompting the EU to reconsider how it envisions its future ties with China. As it stands, the characterization of China as a partner for cooperation and negotiation, an economic competitor, and a systemic rival, may discourage Member States from taking a stronger stance against China.

While it might be necessary to engage China to address climate change and security challenges, this should not be at the expense of achieving energy security and autonomy. Therefore, a new definition should correspond with the new role of China as a strategic competitor, rather than merely an economic competitor. China has already taken the lead in the energy transition and possesses significant control over crucial resources that pose a threat to Europe's innovation and energy security. This underscores the need for a more profound recognition of China, one that places the EU's future strategic outlook at the forefront.

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