

Safeguard Measures on Imports of Solar Cells and Modules**Lala Syahrani ¹, Nurul Feisya Kamal ², Hadra Al Murfie ³, Mohammad Absya
Ripasada ⁴, Rifa Nabila ⁵**¹²³⁴⁵Universitas Andalas, Indonesia**Abstract**

Within the context of the escape clause concept in international trade law, this article analyses the trade safeguard measures that the United States of America has enacted on imports of crystalline silicon photovoltaic (CSPV) cells and modules. An examination of the reasoning behind the United States' decision to adopt these controls by Section 201 of the Trade Act of 1974 is presented in this article. The study highlights the detrimental effects of increased imports and trade on the domestic solar industry. The purpose of this study is to determine whether or not these measures are by the conditions that are described in the escape clauses of the General Agreement on Tariffs and Trade (GATT) and the Agreement on Safeguards.

Keywords: *Safeguard measures, Import, Solar cell, Module*

1. INTRODUCTION

Endowed with copious sunshine, Indonesia possesses immense potential for advancing solar power. Nevertheless, worldwide solar energy sector's progress is frequently hindered by international trade conflicts. The solar energy sector has seen substantial expansion in recent years due to heightened recognition of the imperative for environmentally friendly and renewable energy sources. Nevertheless, this expansion has been accompanied by fierce rivalry among nations, with the latter endeavoring to safeguard their own industries against the infiltration of imported goods.

A case in point is the protection measures the United States implemented to prevent the entry of crystalline silicon photovoltaic (CSPV) cells and modules from China and other nations. These measures encompass the implementation of tariffs and import restrictions with the aim of safeguarding domestic manufacturers from the perceived unfair competition. An investigation by the International Trade Administration (2022) revealed that these actions were implemented to tackle unfair trade practices, such as subsidies and dumping, carried out by foreign manufacturers, namely from China.

Concentrated Solar Photovoltaic (CSPV) cells are a crucial element in solar power systems that primarily function in producing electricity from sunlight. These solar cells utilize silicon of exceptional purity, which, when subjected to sunlight, produces an electric current by means of the photovoltaic phenomenon. The exceptional efficiency and capacity of CSPV cells in transforming sunlight into electrical energy position them as a leading option in solar power technology. Integrated solar panels with numerous Concentrated Solar Photovoltaic (CSPV) cells may generate clean and sustainable energy for various purposes, ranging from residential to large-scale power plants, according to the Solar Energy Industries Association (2022).

At present, China holds a commanding position in the worldwide CSPV cell manufacturing industry, accounting for over 80% of the market share in 2021. Their competitive edge lies not just in sheer production volume but also in superior manufacturing efficiency and reduced production expenses in comparison to other nations (Hilton, 2024). Nevertheless, Southeast Asian countries such as Vietnam, Malaysia, and Thailand are also starting to establish themselves as significant participants in the market, with increasing manufacturing capacity. An analysis by the International Renewable Energy Agency (2023) reveals that the increasing worldwide need for environmentally friendly energy has propelled the growth of CSPV cell manufacturing in the area, establishing it as a potential manufacturing center that may compete with China in the next years.

The global concerted effort to decrease carbon emissions and attain sustainability objectives has generated an exceedingly high need for solar energy. The market for Concentrated Solar Photovoltaic (CSPV) cells is projected to sustain its growth in tandem with the rising global acceptance of solar technology. Nevertheless, trade conflicts and protectionist policies, such as those enforced by the United States, illustrate that the industry continues to encounter significant obstacles in the global trade sphere (World Trade Organisation, 2022).

2. RESEARCH METHOD

The utilization of qualitative research approaches, such as content analysis, case studies, indirect interviews, and literature review, was observed in this particular piece of writing. Using this methodology, the researcher was able to conduct an in-depth investigation and get a comprehensive understanding of a number of aspects of the safeguard measures that the United States has in place to protect against CSPV imports. These aspects include the legislative foundation, implementation processes, repercussions, and worldwide reaction. A comprehensive and contextualized analysis of a complex issue pertaining to international trade is presented in this study. The analysis is conducted utilizing qualitative research methods.

3. RESULT AND DISCUSSION

Background.

The DS562 case pursued by Indonesia is driven by substantial disputes between the United States and many members of the World Trade Organisation (WTO) concerning safeguarding measures against the importation of solar cells and modules. In January 2018, the United States declared the implementation of duties as a precautionary action on these goods, alleging a significant surge in imports from specific nations, notably China, which was resulting in severe challenges for the local solar cell sector. The safeguard measures were established in accordance with the US Trade Act of 1974, which permits protective actions in cases where there is substantial evidence of significant harm caused by heightened imports. In 2018, the government introduced first-time tariffs of 30%, which are scheduled to be gradually reduced to 15% by 2021.

Following the incident, the member countries of the World Trade Organisation promptly lodged official objections, alleging that the United States had breached its commitments under WTO agreements. Their criticism was that the US failed to adhere to proper protocols in establishing the safeguard tariffs, which included insufficient inquiry and inadequate proof of significant damage to the domestic industry. The WTO panel formed to address the matter released a report in September 2019 and

determined that the United States breached multiple procedural obligations of the WTO. The primary conclusion of the panel was that the United States failed to present adequate evidence to substantiate its assertion of catastrophic harm to the domestic industry.

The example of DS562 exemplifies the intricacies of global commerce, particularly in the critical renewable energy industry. It has consequences not only for the implementation of US trade policy, but also for the ongoing challenges to the WTO dispute settlement system. The present case exemplifies the conflict between safeguarding home businesses and advancing green technologies on a global scale, which may have enduring consequences for the global trade of renewable energy.

Analysis and Discussion

To analyse the "US Case - Safeguard Measures on Imports of Solar Cells and Modules (DS562)" and its relevance to escape clauses in international trade law, it is crucial to first examine the trade safeguards implemented by the United States in 2017 for crystalline silicon photovoltaic (CSPV) cells and modules. The implementation of this policy generated significant controversy over its conformity with international regulations, namely those pertaining to Article XIX of the GATT 1994 and the WTO Agreement on Safeguards, which regulate the employment of safeguard measures in international commerce.

The installation of these safeguard measures by the United States was grounded on Section 201 of the Trade Act of 1974, which grants states the authority to address significant surges in imports that negatively impact domestic businesses. The US assertion centred on the decrease in the cost and quantity of solar photovoltaic (CSPV) imports, which had substantial effects on local manufacturers, especially in the solar energy sector. The arguments underscore the endeavors of the United States to reinstate equitable conditions inside the domestic market and safeguard key industries against unjust competition.

Nevertheless, a thorough assessment of the conformity of US activities with the escape clause regulations within the framework of the GATT and the WTO Agreement on Safeguards uncovers certain elements that demand particular consideration. Firstly, the US's approach to adopting these protection measures is a crucial area of scrutiny. States that intend to impose safeguard measures must make explicit notification to the World Trade Organisation (WTO) and other member nations, in compliance with WTO regulations. An essential component of the procedural requirements that must be followed is the consultation procedure carried out before the implementation of the measures. The evaluation of the legitimacy of this measure necessitates the imperative task of verifying that the United States has adhered to the procedures rigorously governed by the World Trade Organisation (WTO).

Importantly, this research also focuses on the conformity of the safeguard mechanisms with the substantial criteria specified in Article XIX of the GATT 1994. The considerable criteria encompass a notable surge in imports, severe damage to the domestic industry, and a direct cause-and-effect relationship between the import increase and the damage to the home industry. Thorough assessment of the data and evidence provided by the US to substantiate its assertions is essential to verify that the measures adhere to the specified criteria in international agreements.

An essential component of this analysis is the response of the international community to the activities of the United States. Countries that are members of the World Trade Organisation (WTO), particularly significant producers of Carbon Single Peak Vehicles (CSPVs) like China and the European Union (EU), can address these acts

by initiating discussions with the WTO to settle trade conflicts. This remark may maybe indicate their skepticism over the legitimacy of the US rationale and its consequences on international commerce.

The present study asserts that a comprehensive assessment of the procedures and criteria outlined by the General Agreement on Tariffs and Trade (GATT) and the World Trade Organization (WTO) Agreement on Safeguards is necessary to determine the alignment of US safeguard measures against Countervailing Sale of Products (CSPVs) with escape clause regulations in international trade law. Although the United States has the power to safeguard its domestic industry from the adverse effects of substantial imports, it is crucial to guarantee that any trade protection measures comply with the fundamental requirements of transparency, non-discrimination, and openness that form the basis of the international trading system. In addition to its impact on the solar energy sector, this case has wider ramifications for the trust and integrity of the existing global trading system.

Effects Creating Effects This case examines the effects of the US Safeguard Measures on Imports of Solar Cells and Modules, which have both good and negative consequences.

Achieving sustainable and ethical implementation of solar energy systems necessitates meticulous evaluation of their varied environmental impact. One notable consequence is land use concerns, as the installation of solar energy systems necessitates allocation of space, which may result in the transformation of natural ecosystems or agricultural land. The potential disruption of ecosystems and biodiversity underscores the need of prudent site selection to mitigate these effects. Moreover, the heat pollution produced by solar energy systems can have a negative impact on water bodies and aquatic organisms, underscoring the need of meticulous planning and implementation of mitigation strategies to avoid harm to nearby ecosystems.

Moreover, the production process of solar panels can exacerbate air pollution by emitting chemical contaminants, emphasizing the need of using eco-friendly manufacturing techniques and materials. Photovoltaic systems have the potential to emit dangerous chemicals in the event of a fire, so presenting environmental and human health hazards. In order to tackle this problem, it is imperative to establish rigorous safety measures and contingency plans to minimize possible harm to the environment.

One other factor to take into account is the visual impact, since the installation of solar panels on buildings can modify the visual attractiveness of metropolitan regions. The reduction of this visual load can be achieved by incorporating solar energy systems at the building stage, therefore guaranteeing a seamless integration with the current architecture. Potential noise disturbance from solar energy systems must be mitigated by implementing soundproofing measures and strategically positioning equipment to minimise disruption to the local community.

Ultimately, although solar energy systems have numerous advantages in terms of producing renewable energy, it is crucial to acknowledge and reduce their environmental consequences. Through the implementation of sustainable techniques such as meticulous site selection, effective module design, and precise planning, it is possible to reduce the adverse effects of solar energy systems, so facilitating a more environmentally friendly energy transition.

Adverse effects of solar energy systems encompass land use conversion, ecological heat pollution, air pollution during production, fire-related pollutant release, visual burden in urban regions, noise disruption during construction, and possible radiation pollution from solar power plants in outer space. Failure to effectively manage and mitigate these effects can have detrimental effects on natural resources, biodiversity, and human health. To mitigate these adverse effects, it is crucial to implement measures such as meticulous site selection, integrated design throughout construction, and emergency response planning.

Solar energy systems have notable environmental advantages by offering a clean, renewable, and domestically produced energy source, therefore helping to the achievement of a sustainable energy future. These technologies facilitate the mitigation of greenhouse gas emissions, decrease reliance on fossil fuels, and foster energy self-sufficiency. Moreover, solar energy systems exhibit negligible air pollution during their operation and do not release any greenhouse gases, therefore effectively supporting the mitigation of climate change. By harnessing solar energy, communities can diminish their carbon emissions, enhance air quality, and contribute to a more environmentally friendly energy composition. Furthermore, solar energy systems have the potential to generate employment opportunities within the renewable energy industry, foster economic expansion, and enhance energy security. Undoubtedly, the beneficial effects of solar energy systems on the environment and society establish them as a crucial element in the shift towards a more environmentally friendly and sustainable energy framework.

4. CONCLUSION

The United States' 2017 implementation of safeguard protocols against imports of crystalline silicon photovoltaic (CSPV) cells and modules, as outlined in Section 201 of the Trade Act of 1974, is intended to protect the domestic industry from the adverse effects of import surges. However, it is crucial to thoroughly assess the conformity of these measures with international regulations. This assessment entails an examination of the United States' compliance with the protocols set by the World Trade Organisation (WTO), which include explicit notification and consultation with other member nations. It also includes meeting important criteria such as a substantial rise in imports, severe damage to domestic industries, and a conclusive causal connection between the two. The international community, notably China and the EU, expressed grave concerns about the rationale and consequences of the US actions, underscoring the need of upholding the norms of transparency, non-discrimination, and openness in the multilateral trade system. Therefore, it is crucial to maintain the confidence and integrity of the global trading system and to prevent the protection of domestic industries from undermining the fundamental principles of international trade by ensuring that US safeguard measures are consistent with the escape clause limits in the GATT 1994 and the WTO Agreement on Safeguards.

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