

# Safeguard Duty Imposition Impacting Solar Tariffs in India



Gaurav Sood, Prakash Rao

**Abstract:** By 2022, Government of India targets to install 175 GW of renewable energy in the country among which solar energy shall contribute 100 GW. This paper, discusses the impact of the important decision taken by Government of India with regards to the levy of Safeguard Duty (SGD) on solar photovoltaic panels and cells imported into the country. This paper analyses the impact on the capital cost of the solar projects on account of the imposition of SGD and the mechanism to be adopted under the Change in Law provision under the Power Purchase Agreements (PPA's) for restoring the Solar Power Developers (SPD's) to the same economic position as prior to imposition of SGD. A methodology has been proposed to derive a normative tariff pass-through based on parameters considered in CERC RE Tariff Order, which can be made applicable to all projects which are reeling under the impact of SGD to recover the impact on the capital cost of the project. Further, an analysis to determine the required pass through in tariff on account of SGD based on normative project cost values which can be made applicable to all affected solar projects has been carried out. Upon consideration of the different project parameters and cost structures for various projects and an early resolution of the issue to reduce the burden on the SPD's, it is deduced that pass through in tariff based on normative project cost values remains the best option for all stakeholders concerned. This work will be particularly applicable for projects which were already bid out prior to the date of SGD initiation, and were under construction or where construction was about to commence, and hence would be impacted by applicable SGD. Since the impact of imposition of SGD is still being analyzed, this may be one of the first papers and result in setting up of precedent for future papers & numerous case studies revolving around a specific solar power project.

**Keywords:** India, Safeguard Duty, Solar, Solar Tariffs.

## I. INTRODUCTION

Intended Nationally Determined Contributions (INDCs) declared by India at COP 21 in 2015 advocated to meet 40% of energy demand by 2030 from renewable sources [1] thereby setting up the path for India to undergo a suitable transformation and undertake that giant leap from installing conventional plants to non-conventional ones.

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The Indian government in 2015, launched a unique program of having an installed base of 175 GW of renewables in the country by 2022, with solar contributing 100GW (revised from 20 GW under Jawaharlal Nehru National Solar Mission (JNNSM) launched in 2009), wind contributing 60 GW from wind, small hydro power contributing 5 GW & Biomass 10 GW [2]

India's current installed power generation capacity is 349.288 GW (as on 31.12.2018) out of which Renewable Energy Sources (RES) form only 21.20% as indicated in Table - I [3-5]. Thus, India has an uphauling task to achieve 40% of renewable capacity by 2030.

The country in 2010-11 had an installed solar power capacity of just 1030 MW and as of 31/12/2018, the cumulative solar power capacity became 25212.26 MW which is 34.03% of total installed renewable capacity as given in Figure 1. As of 31<sup>st</sup> December 2018, the installed solar energy capacity in the country is 25.21 GW and pipeline capacity is 13.91 GW. This means an additional 61.88 GW capacity needs to be added to meet the 2022 target of 100 GW.

## II. FACTORS BEHIND THE IMPOSITION OF SAFEGUARD DUTY (SGD)

The Crystalline Silicon (c-Si) Photovoltaic (PV) modules manufacturing capacity is mainly concentrated in China, Taiwan and Malaysia which makes up to 80% of global manufacturing capacity. The global manufacturing capacity of modules was approximately 97.5 GW by end of 2017 and close to 68% of this was based out in China and another 15% in Central Asia and Asia Pacific [6] To further add, as on 31.05.2017, total manufacturing & operational capacity of solar cell and module in the country was 3.164 GW & 1.667 GW and 8.398 GW & 5.506 GW respectively [7] and further actual production was only 0.7 GW and 1.7 GW respectively [8]. In addition to pricing considerations and demand supply mismatch, Indian developers require large module capacities to be delivered in shorter timelines, bankable module manufacturer's which can

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Table - I: India Installed Capacity (MW)- 31/03/1996, 31/12/2005, 31/12/2016, 31/01/2018 & 1/12/2018

Sector	31/03/1996	31/12/2005	31/12/2016	31/01/2018	31/12/2018
Coal	53,547.48	68,433.08	188,487.88	193,821.50	197,452.50
Gas	6,200.00	12,429.61	25,329.38	25,150.38	24,937.22
Diesel	339.39	1,201.75	837.63	837.63	637.63
Nuclear	2,225.00	3,310.00	5,780.00	6,780.00	6,780.00
Hydro	20,976.09	32,135.05	44,189.43	44,963.42	45399.22
RES	-	6,158.32	50,018.00	62,846.90	74081.66
<b>Total</b>	<b>83,287.96</b>	<b>123,667.81</b>	<b>314,642.32</b>	<b>334,399.83</b>	<b>349,288.22</b>

provide requisite third-party insurances, modules having higher efficiency & using latest technology and contractual bank guarantees from manufacturers which are possible from manufacturers based mainly out of China, because of their scale, financial strength and latest equipment.

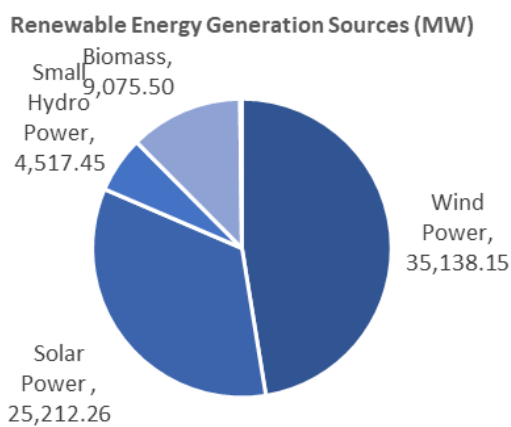


Figure 1. Renewable Energy Installed Capacity in India as on 31/12/2018

Under the tender regime prevalent in India, most of the tenders have a provision of deployment of technology agnostic modules without specifying the procurement source except for few initial tenders auctioned prior to 2013 which stated Domestic Content Requirements, later scrapped owing to a complaint by the USA with World Trade Organization. In line with the government targets to accomplish 100GW of installed solar power capacity by 2022, the government plans to invite bids for 30,000 MW each in the current and next financial years. With such large capacity addition plans, the government wants to promote Make in India and also support domestic manufacturers who are not able to compete with Chinese and other large manufacturing countries. Domestic manufacturers had been suffering owing to decrease in tender volumes mandating use of local sourcing requirements and India Solar Manufacturers Association (ISMA) in July, 2017 filed a petition to Directorate General of Anti-Dumping & Allied Duty (DGAD) falling under auspices of Ministry of Commerce and Industry, Government of India to investigate imports of crystalline & thin film solar cells and panels from Taiwan, China, Malaysia and USA.

Amidst the continuation of anti-dumping duty investigation, another application on 28.11.2017 was filed by Indian Solar Manufacturers Association (ISMA) at behest of five Indian module manufacturers for levy of Safeguard Duty on imports of "Solar Cells whether or not assembled in modules or panels" ("product under consideration" or "PUC") to insulate

the Domestic Industry (DI) from like or directly competitive/substitutable products which would have resulted in serious injury caused by growing imports resulting in idle production facilities and heavy losses. Post application, on 19.12.2017, Notice of Initiation (NOI) of Safeguard Investigation was promulgated in Gazette of India and provisional findings recommending imposition of safeguard duty of 70% for 200 days on solar imports were issued under Rule 9 (2) of the Customs Tariff Rules, 1997.

Post public hearing on 26th June 2018 [9] summary of:

### A. Major arguments put forward by aggrieved parties were as follows:

1. Losses incurred by petitioners are owing to erroneous business decisions (making investments in capacity enhancements rather than exploiting unutilized capacity), global turmoil, European financial crash (most of the petitioners were engaged in exports and not active in the domestic market).
2. Operational capacities of petitioners are less than 50% as close to 60% solar cells and 40% module manufacturing facilities are in SEZs and do not fulfil criteria of DI as articulated in Agreement on Safeguards article 4.1(c) read in conjunction with Section 8B sub-section (6)(b) of Customs Tariff Act, 1975
3. The wide deficit between demand and supply which cannot be overcome even at 100% capacity utilization and imports would be required invariably. Further, creating new facilities in manufacturing of solar cells is expensive and time-consuming.
4. PERC (Passivated Emitter Rear Cell), Thin films & Bi-facial N-type solar cells; High-efficiency solar cells with 5 and 6 bus bar and Solar modules of monocrystalline technology are not manufactured by DI and these have better conversion efficiencies.
5. The anti-dumping investigation had been terminated on 23<sup>rd</sup> March, 2018 on account of withdrawal of petition by petitioners (possible lack of any injury to DI) and hence safeguard duty investigation is not needed. Further, under Article XIX(1)(a) of GATT, India cannot impose safeguard duty unless it demonstrates that increased imports and consequential injury arise owing to unforeseen developments.
6. Preliminary findings were issued within 18 days of initiation of investigation without waiting for views within 30 days of initiation notice from aggrieved parties.

**B. Major arguments against arguments of aggrieved parties put forward by petitioners are as follows:**

1. Chinese module prices have widely fluctuated without significant technological breakthrough or changes in module design which indicates prevalence of predatory pricing.
2. PUC is classified under sub-heading 8541.40 of the Harmonized Commodity Description and Coding System (HSN) and sub-heading 8541.40.11 of the Indian Customs Tariff Classification under Attachment A, Section 1 of Information Technology Agreement (ITA-1) (and classifies cells, modules and thin film modules as one product) which mandates that duty exemption is to be applicable to c-Si solar cells, c-Si solar modules/panels and Thin film modules/panels.
3. Indigenous production of c-Si cells has to be considered like articles against imported c-Si technology products and 'directly competitive' articles for thin film technology products imported.
4. There has been a year-on-year growth in the imports of PUC from China increasing by 3.3 times during 2015-16 over the previous year, 1.52 times in 2016-17 and 1.48 times during 2017-18 over the preceding years owing to sustained support from Chinese government.
5. Imports have sharply increased while prices have been reducing consistently. Qualitatively and Quantitatively, increase in imports must be sudden, recent, significant & sharp and enough to cause or threaten to cause 'serious injury' as per established conventions of law, all conditions which are satisfied in the present case.

**C. Based on hearing, the findings published are as follows [10]:**

1. Solar cells of various types produced by different technologies vary in terms of efficiency, price, physical characteristics but final usage of the PUC is to produce power only and hence in accordance with Safeguard duty rules (Custom Tariff (Identification and Assessment of Safeguard Duty) Rules, 1997, "like article means an article which is identical or alike in all respects to the article under investigation" warrants that common and overlapping applications of PUC are directly competitive and cannot be excluded.
2. Customs Tariff Act, 1975 defines Domestic Industry as that constituting a major share of total production of the like article or directly competitive article in India. The scope of DI in this investigation is restricted only to 2 applicants instead of the original 5 (3 being located in SEZ) which collectively account for 38% of the total domestic production.
3. Import volumes of the PUC have increased to 9,833 MW in 2017-18 from 1,275 MW in 2014-15. Further, humungous increase during the first six months of 2017-18 which is 77% of the imports in 2016-17 has been observed.
4. China's production capacity in 2016 for solar cells doubled to 27.78 GW from 11.12 GW in 2012 and that of Solar Modules to 35.47 GW from 12.46 GW in 2012 [11] This has not been questioned by aggrieved parties and the

only argument put forward is that domestic consumption in China is more than its exports in the year 2017 which fails to address the question of a shift in the pattern of trade.

In the ongoing tussle between Indian Solar Photovoltaic Module Manufacturers (ISPMM) and Indian Developers, module manufacturers finally prevailed and Ministry of Finance, Government of India vide notification No. 01/2018-Customs (SG) dated 30.07.2018 issued imposition of safeguard duties on solar cells whether or not assembled in modules or panels imported from China and Malaysia and recommended imposition of safeguard duty on subject goods for a period of two years at the rate specified herein below (factoring in the reasonable return on cost of production minus interest)

- (a) 25% ad valorem less any anti-dumping duty payable for imports made between 30.07.2018 and 29.07. 2019;
- (b) 15% ad valorem less any anti-dumping duty payable for imports made between 30.07.2019 to 29.01.2020; and
- (c) 15% ad valorem less any anti-dumping duty payable for imports made between 30.01.2020 to 29.07.2020.

Further, notification is not applicable to imports of PUC from developing countries mentioned in Section 8B(1) of the Customs Tariff Act, 1975 of notification No. 19/2016-Customs (N.T.) dated 05.02.2016 which states that Safeguard Duty (SGD) shall not be imposed on imports from such countries as long as the share of import of such article does not cross 3% of total imports of that article or, where the article is originating from more than one country and share of imports aggregating together does not cross 9% of the total imports of that article and also with import share of less than 3% from each such country.

**III. IMPACT OF NOTIFICATION OF SAFEGUARD DUTY**

Post 30<sup>th</sup> July 2018, since the quantum of SGD was a significant 25% for the first year, the projects under execution or about to be executed over the next 12 months came in limbo. On account of ambiguity whether the "Change in Law" clause in various PPA's would account for Imposition of Safeguard Duty as "Change in Law" event, solar project developers (SPD's) had to slow down on the execution of their projects as both the SPD's as well as project finance lenders considered the projects as unviable unless imposition of SGD wasn't declared a "Change in Law" event and a passthrough mechanism of one-time lump sum settlement or increase in tariff was decided. This despite the fact that Ministry of New and Renewable Energy (MNRE) had come up with clarification on 'Guidelines for

Tariff Based Competitive Bidding Process for Procurement of Power from Grid Connected Solar PV Power Projects' issued by Ministry of Power stating that "change in rate of any taxes" includes "change in rate of taxes, duties and cess"[12].

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With the projects, awarded prior to the imposition of SGD under various auctions, coming to a standstill, the SPD's and various associations approached MNRE for clarification of treatment of Imposition of SGD as "Change in Law" event under various PPA's. The MNRE, vide its Letter No. 283/56/2017 – Grid Solar dated 20.12.2018 issued in response to a representation made by the Solar Power Developers Association for resolution of critical issues impacting the solar sector, acknowledged that pass through of SGD ought to be allowed by way of appropriate tariff revision. Thus, basis of such letter as issued by the Ministry of Power and the MNRE, safeguard duty being a domestic duty ought to be treated as a pass through and thereby allowed as a change in law.

### *A. Some of the key impacts of Imposition of SGD are as mentioned below:*

1. The introduction of SGD severely affects the parameters upon which the SPD's had submitted their bid at the time of conduct of the competitive bidding processes for various tenders. The imposition of Safeguard Duty on solar modules imported during the period mentioned in above section adversely affects the capital cost of the Project on account of the fact that the landed cost of the solar PV modules, which constitute majority of the total capital cost of the Project, increased substantially resulting in an escalation in the capital cost of the Project.
2. Also, in addition to increase in capital cost, the carrying cost increased which is incurred on the additional cost (from the date of incurring up to the date of recovery) as a result of introduction of SGD.
3. Prior to imposition of the Safeguard Duty, the import of modules was solely subjected to Integrated Goods and Services Tax (IGST) at 5% (Basic Custom Duty was nil). However, with effect from 30.07.2018, the import of solar cells and modules required for the setting up of projects is leviable with 25% safeguard duty (which would be progressively liberalized) along with an additional IGST of 5% on the value of SGD paid.

4. The imposition of safeguard duty as per the SGD Notification would be applicable for a period of two years. Since the safeguard notification remains in operation for a period till 30.07.2020 and for the projects likely to be commissioned within the year 2019, there may be instances, where during the O&M period, module may be required for replacement. Accordingly, this will cause additional investment, which will be subjected to payment of safeguard duty.
5. As the 'return on equity' and 'interest on working capital' are integral to an all-inclusive tariff bid. At the time of the submissions of bid(s), the SPD's factor in 'interest on working capital' and return on equity based on the taxes & duties prevalent at the time of bid as is seen from Table - II & III. With the increase in the tax liability on account of the imposition of the Safeguard Duty, the working capital provisions & interest on working capital requirements have also increased as compared to requirement and rate prevalent at the time of submission of the bid for the Project. Thus, the SPD's are entitled to incremental working capital at normative interest rate to put them to the same economic position as if change in law has not occurred.

**Table - II: Analysis of simulation carried on Financial Model**

Assumptions	Project A	Project B	Project C
Project Capacity (MWAC)	175	250	300
Tariff (INR/kWh)	3.00	3.15	3.30
Project Cost (INR m) before SGD	7000	10000	12000
Module Cost (INR m) considering 60%	4200	6000	7200
SGD Impact (INR m) assuming SGD@ 25% + 5% GST on it	1102.5	1575	1890
Normative Debt	77%	78%	80%
Interest Rate on Debt	10%	9.75%	9.5%
Return on Equity post tax	14%	18%	20%
Return on Equity pre-tax considering MAT of 20.26%	20.14%	22.66%	25.18%
Depreciation for first 13 years	5.28%	5.28%	5.28%
Depreciation for balance years	1.78%	1.78%	1.78%
Differential Tariff which needs to be passed through to get same return on equity post tax	0.44	0.50	0.52

**IV. IMPACT ON TARIFF POST IMPOSITION OF SAFEGUARD DUTY**

We developed a financial model to understand the impact on tariff due to imposition of safeguard duty resulting in increased project cost, carrying cost, increase in associated costs, interest on working capital etc. We simulated a scenario involving 3 different projects with varying project costs and return expectations and performed financial simulation considering the below inputs to ascertain the additional tariff required as pass-through to nullify the imposition of SGD to meet the initial return on equity post tax. It can be inferred from Table - II that for every project, the differential tariff that needs to be allowed as pass-through will be different in order to keep the project equity rate of return same as prior to imposition of SGD. As per Solar Power Developer Association, imposition of safeguard duty would affect about 9,000 MW of projects under construction and additional 9000 MW projects that have been bid before the duty was imposed but yet to commence construction [13]. Above scenarios, imply that ascertaining tariff for individual projects will be a humungous task as every project would have its own unique set of assumptions, hurdle rates (return expectations of investors) and project cost parameters. Electricity Regulatory Commissions at state and centre despite having adequate knowledgeable, support staff or third-party consultants will be overburdened with huge workload of hearing petitions for every affected project. There are chances that some solar power developers may try to game the situation and make profits.

Thus, the authors propose to derive a normative tariff pass-through based on parameters considered in CERC RE Tariff Order 2018-19, as given below which can be made applicable to all projects which are reeling under the impact of safeguard duty. Following parameters i.e. normative debt of 70% to be considered or actual higher value if applicable, debt interest rate of 9.97%, return on equity post-tax of 14%, depreciation of 5.28% for first 13 years and 1.78% for remaining period, , and the actual safeguard duty incurred by any project company to be input and this would compute the

various streams which are required to be recovered for funding the SGD amount - additional interest to be paid on the debt amount, return required on the equity component, depreciation payable and interest on working capital payable. These year on year total recoverable would be discounted using weighted average cost of capital (WACC) to compute the levelized revenue to be recovered per year using the Net Present Value (NPV) method. This levelized revenue is divided by units generated every year to get the required levelized tariff increase (INR/kWh) in order to keep the same return on equity. This would simplify things and make it easy for regulators to provide a pass-through tariff for various projects in a timely manner irrespective of project cost, tariff, CUF and project return levels.

As can be seen that from Table - III, the increase in tariff for the specific case works out to INR 0.49/kWh. The Central/ State regulators would have to determine tariff allowed as pass-through on account of safe guard duty on a normative basis, as it would be very difficult to go into each project specific basis. Accordingly, the normative calculation works out to be INR 0.0032/kWh for every INR 10million imposition of SGD.

**V. CONCLUSION**

India wants to install 100 GW of solar capacity by 2022 which means in the next 4 years it would have to build more than four times the existing capacity. The pace, however, has begun to slacken owing to regulatory uncertainties and has the potential to rain on India’s sunny parade. Size of the market and a well-designed and transparent reverse auction mechanism in solar has attracted global investors to India and resulted in increased investments in the country. Reduction in solar equipment costs has been passed along to end consumers as is visible in form of falling tariffs before the uncertainty period set in. Until recently, renewable energy stakeholders were aware of the falling tariffs in the renewable energy sector especially solar with the lowest in India reaching INR 2.44/kWh (\$c 3.48/kWh) [14] in various auctions spanning over time. This record low achieved may not be witnessed in near future soon.

**Table – III: Input Parameters to ascertain Normative Pass through cost in Tariff**

Assumptions	Value
Project Capacity (MWAC)	250
Tariff (INR/kWh)	3.15
Capacity Utilization Factor, CUF (%)	19
Project Cost (INR m) before SGD	10000
Module Cost (INR m) considering 60%	6000
SGD Impact (INR m) assuming SGD@ 25% + 5% GST on it	1575
Normative Debt	70%
Interest Rate on Debt	9.97%
Return on Equity post tax	14%
Return on Equity pre-tax considering MAT of 20.56%	17.56%
Depreciation for first 13 years	5.28%
Depreciation for balance years	1.78%
Differential Tariff as per CERC Norm (INR/kWh)	0.49

## Safeguard Duty Imposition Impacting Solar Tariffs in India

While the SGD has been levied with intention to kick-start a domestic industry that failed to take off in the face of competitive imports but SGD alone is unlikely to boost the domestic solar manufacturing industry because of the limited 2-year period of application and Indian developers will continue to rely on imports owing to supply-demand mismatch [15].

The imposition of SGD will affect all projects in the pipeline and those under the hammer. Despite government clarifying that Clause 'Change in Law' includes any "change in rates of taxes, duties and cess" and such costs would be passed through in tariffs if projects are impacted, DISCOM's would generally be reluctant to consider SGD as Change in Law [16] as this adds financial burden on DISCOM's whose financial condition is already delicate. For this reason, SPD's have to file for Change in law petitions seeking for declaration of SGD imposition as Change in Law event and getting a favorable decision, and agreeing on the mechanism with DISCOMs for recovering the incurred additional capital cost at the earliest else the projects would get stuck. Even though such costs will eventually be allowed as passthrough one or the other way, but since all such processes are long-drawn, most of the under-construction projects are likely to be affected in terms of financial closure as well as completion within timelines.

Since the SGD absolute amounts are fairly significant, it will not be possible for the financially weak DISCOMs to provide the incurred SGD cost as one-time lumpsum settlement. Also, the tariff determination on project basis will be difficult, contentious and time consuming, hence a reference scenario based on CERC RE tariff norms as illustrated above needs to be adopted to work-out the pass through in tariffs over the life of the PPA on basis of such determination. As per analysis carried above, an escalation of INR 0.0032/kWh for every INR 10 million imposition of SGD is imminent.

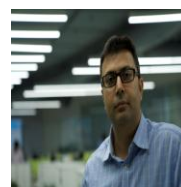
As per the Renewable Tariff Guidelines issued under the ambit of Section 63 of Electricity Act, 2003 it is clearly recognized that Solar Power Developer is required to be put away in the same commercial situation as it would have been before the occurrence of Change in Law, which is essentially the principle of restitution. Thus, basis the Renewable Tariff Guidelines, it is imperative that the SPD is granted a pass through in tariffs as discussed in above sections. This will help government boost its credibility and go a long way of in its vision of making India in top 50 ranked nations in Ease of Doing Business rankings

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### AUTHORS PROFILE



**Gaurav Sood** is MBA in Finance & Marketing and M. Tech. in Renewable energy and brings the rare mix of technical and business acumen to the table. Currently, he is pursuing his Ph.D. in Energy Policy. This research paper is a part of Gaurav's ongoing Ph.D. work. He has been associated with the renewable industry for close to 12+ years. He has been one of the key personnel involved in setting up the renewable energy division for Bharat Forge. Prior to being the CEO of Sprng Energy Private Limited, he was Managing Director of Solairedirect India, a subsidiary of Engie,

where he was instrumental in building a platform of more than 590 MWp high quality solar assets spread over 4 states.

With such an enriching experience and continued association with another 1250 MW solar and wind projects under construction as a CEO, he is suitably well versed with the nitty gritty of renewable sector industry. He has been selected in the Economic Times prestigious list of "Forty under 40" young business leaders of India Inc in 2016.



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