A Work Project, presented as part of the requirements for the Award of a Master's degree in [International] Finance from the Nova School of Business and Economics.

POWERING THE FUTURE TOGETHER?

A Strategic Analysis of a Potential Merger between Enphase Energy and Canadian Solar

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- Financial Analysis of Canadian Solar Inc. -

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14/12/2024

Abstract: This thesis presents a strategic analysis of a potential merger between Enphase Energy Inc. and Canadian Solar Inc., two key players in the renewable energy sector. It assesses the solar market landscape and evaluates both companies through discounted cash flow (DCF) analyses to estimate intrinsic value. Thorough financial analyses of both companies are conducted, with detailed scrutiny of their financial statements. These analyses form the foundation for the financial projections and subsequent valuations. The study further investigates potential synergies that could arise from a merger, including operational efficiencies and market expansion opportunities. Based on these findings, the thesis provides a recommendation regarding the merger's feasibility and projected benefits. The results suggest that the merger creates value from both an economic and shareholder perspective.

Keywords: Mergers & Acquisitions, Synergies, Post-Merger Integration, Valuation, Strategic Rationale, Financial Analysis, Renewable Energy, Solar Energy

This work used infrastructure and resources funded by Fundação para a Ciência e a Tecnologia (UID/ECO/00124/2013, UID/ECO/00124/2019 and Social Sciences DataLab, Project 22209), POR Lisboa (LISBOA-01-0145-FEDER-007722 and Social Sciences DataLab, Project 22209) and POR Norte (Social Sciences DataLab, Project 22209).

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GROUP PART I

1. Introduction

In the global business landscape, mergers and acquisitions (M&A) are critical strategies for growth, enabling companies to expand, achieve economies of scale, and secure competitive advantages. M&A is particularly significant in the renewable energy sector, especially solar energy, as the world shifts toward sustainable solutions to combat climate change. With government support and technological advancements driving down costs, the solar industry has become a key growth area (IRENA 2024; SolarPower Europe 2024). Strong historical growth and promising future prospects further bolster its appeal.

This thesis explores a potential merger between Enphase Energy Inc., a leader in energy management technology, and Canadian Solar Inc., a global solar power company. The study assesses the strategic rationale, financial valuation, and value creation potential of the merger. Enphase excels in technological innovations enhancing solar efficiency, while Canadian Solar's extensive manufacturing and high-efficiency modules provide global reach. A merger could synergize Enphase's advanced technologies with Canadian Solar's large-scale production, creating a comprehensive product offering superior in quality and service.

The study evaluates the solar market's potential and the two companies through Discounted Cash Flow (DCF) analyses, examining synergies such as operational efficiencies, broader market reach, and an enhanced product portfolio. Metrics like Net Present Value (NPV), returns, and Accretion/Dilution analysis quantify value creation for shareholders. The findings reveal a compelling strategic case for the merger, including a positive NPV of $649 million, returns exceeding the cost of capital within 1.5 years, and a combined Enterprise Value (EV) surpassing standalone values, with stock accretion benefiting shareholders.

Despite challenges like regulatory uncertainty under the Trump administration, the analysis highlights strong synergies and operational efficiencies, making the merger an attractive proposition with clear strategic benefits.

The appendices provide an overview of general M&A trends, M&A activity and the solar energy market (see Appendixes SS and TT), a detailed company description of Enphase Energy (see Appendix UU), the methodology (see Appendix VV), post-merger integration and considerations (see Appendix WW) as well as limitations (see Appendix XX).

2. Canadian Solar Inc.

Canadian Solar Inc., founded in 2001 in Guelph, Ontario, is one of the largest solar technology and renewable energy companies globally. It specializes in manufacturing solar PV modules, energy storage solutions, and developing and operating large-scale solar power projects. Operating in over 20 countries across six continents, the company supports the global transition to clean, sustainable energy (Canadian Solar 2024a).

2.1 Core Products and Services

Canadian Solar's product line includes high-efficiency solar PV modules for residential, commercial, and utility-scale installations, featuring advanced bifacial technology to capture sunlight from both sides. It also offers lithium-ion battery systems for efficient energy storage, catering to the shift toward resilient, distributed energy systems (Canadian Solar 2024a).

The company operates in two segments. CSI Solar focuses on manufacturing solar modules and battery storage, providing complete solutions such as inverters, solar kits, and EPC services. Its e-STORAGE brand delivers utility-scale turnkey battery systems with long-term service agreements, including capacity augmentation (Canadian Solar 2024a).

Recurrent Energy is a leading clean energy project development platform with 15 years of experience, specializing in greenfield origination, financing, execution, operations, and asset management. This segment has delivered hundreds of gigawatts of solar and energy storage projects globally, supported by EPC services. Its integrated approach ensures a steady project pipeline and differentiates Canadian Solar from competitors, directly contributing to renewable energy generation (Canadian Solar 2024a).

2.2 Growth and Development

Canadian Solar has experienced substantial growth through strategic expansion, innovation, and adaptation to shifting market demands. Initially focused on manufacturing solar modules, the company quickly broadened its scope to include project development and EPC services, which now form a significant part of its business. Canadian Solar went public in 2006 on NASDAQ under the ticker CSIQ, which provided capital to expand its manufacturing facilities and global reach. Over the years, the company has invested heavily in R&D, focusing on improving module efficiency and lowering production costs. Canadian Solar's consistent innovation has led to numerous industry accolades and a competitive edge in both established and emerging solar markets (Canadian Solar 2024c).

2.3 Market Presence and Global Operations

With manufacturing facilities in the U.S., China, Vietnam, and Indonesia, Canadian Solar is strategically positioned to meet global demand and avoid trade barriers (Yang 2024). The company has a strong presence in North America, Europe, and Asia, particularly in the U.S., Japan, and China, where solar technology demand is high. It is also expanding in emerging markets with growing solar adoption. In the U.S., Canadian Solar is a leading supplier to residential and utility markets, with its energy storage solutions gaining popularity as demand for hybrid systems rises (Canadian Solar 2024a; 2024b).

3. Merger Rationale

A merger between Enphase and Canadian Solar offers the opportunity to achieve cost and revenue synergies, enhancing the combined entity's position in the global renewable energy market. By integrating Enphase's expertise in microinverters with Canadian Solar's high-efficiency PV modules and large-scale project capabilities, the merger enables an end-to-end solar energy solution, appealing to customers seeking intelligent, integrated systems.

A merger is preferred over a joint venture due to challenges like the hold-up problem and relationship-specific investments, such as joint R&D for advanced solar technologies. These investments have limited value outside the partnership and risk exploitation in a joint venture, where one firm could renegotiate terms to its advantage (Klein, Crawford, and Alchian 1978). Full integration, as proposed by Williamson (1985), unifies governance, aligns incentives, eliminates opportunism, and ensures equitable benefits, maximizing the value of joint investments.

3.1 Cost Synergies

Cost synergies in the merger would arise from economies of scale, shared R&D investments, and streamlined supply chains. Consolidating production resources, especially for inverters, storage systems, and modules, would reduce costs. Enphase could leverage Canadian Solar's manufacturing facilities in Asia, including China, Vietnam, and Thailand, to scale output efficiently and meet demand without significant capital expenditure. Pooling R&D efforts in battery storage, energy management, and system optimization would eliminate redundancies, prioritize innovations, and accelerate product development, improving cost-efficiency. Optimized supply chains and shared logistics networks would enhance bargaining power, reducing procurement, shipping, and warehousing costs, thereby strengthening profit margins. This resource complementarity increases the likelihood of a successful merger, aligning with the resource-based view, where combining complementary assets creates a unique, value-generating resource bundle that is difficult to replicate (J. Harrison et al. 1991; J. S. Harrison et al. 2001).

3.2 Revenue Synergies

Revenue synergies would stem from a broader product portfolio, cross-selling opportunities, and an expanded global footprint. The combined product line would offer fully integrated solar solutions, appealing to residential and commercial customers seeking seamless, compatible systems. For example, customers purchasing Canadian Solar's high-efficiency PV modules could add Enphase's microinverters and storage solutions, increasing average revenue per customer. For utility-scale projects, combining Canadian Solar's expertise with Enphase's technology would deliver comprehensive, grid-connected solutions.

A fully integrated offering simplifies the customer experience, ensuring compatibility, efficiency, and performance while enhancing satisfaction, trust, and brand loyalty. The merger would also expand geographic reach, leveraging Canadian Solar's strong presence in Asia, Europe, and emerging markets like Latin America and Africa. This would provide Enphase with access to regions with growing demand for renewable energy, supported by Canadian Solar's distribution networks and Enphase's brand reputation, enabling the combined entity to capture market share across diverse regions.

4. Standalone Financial Analyses

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4.1 Canadian Solar

4.1.1 Historical Financial Performance

This section analyzes Canadian Solar's historical financial performance, highlighting key trends leading to the valuation assumptions (see Appendices Q, R and S for Canadian Solar's financial statements). The focus is on metrics such as revenues, gross margin, OpEx, and EBIT, along with an evaluation of D&A expenses and CapEx. Similar to the previous analysis conducted for Enphase, these financial elements are examined to establish a solid foundation for the subsequent valuation model.

Over the last five years, Canadian Solar's revenues more than doubled, growing from $3.20 billion in 2019 to $7.61 billion on 2023. However, it is notable that revenues only grew by 1.9% in 2023 and are expected to decline in 2024. The main driver of this development is the global oversupply of solar modules. After bottlenecks in supply chains and high prices for raw materials, the situation is expected to ease. However, enhanced manufacturing capabilities, more stable supply chains and higher availability of components led to lower prices of solar modules and poses challenges for manufacturers in this sector (Canadian Solar 2024a). These developments can be traced for Canadian Solar's competitors, as the median growth rate declined from 26.9% in 2022 to 4.6% in 2023. When further breaking down the revenue streams of Canadian Solar, a disparity of revenue share between the segments becomes visible. The CSI Solar segment contributed 94% and 97% of total revenues in 2022 and 2023, respectively, while the Recurrent Energy segment's turnover even declined in 2023 (Canadian Solar 2024a).

Moving down the income statement, the cost of sales can also be differentiated by segment. Gross margin is used as key metric in this case. While the gross margin of CSI Solar decreased from 24.7% in 2019 to 15.6% in 2023, Recurrent Energy's gross margin varies between 15.8% and 20.5%, with an outlier of 41.1% in 2023. The development in CSI Solar's margin is not surprising given rising cost and pricing pressures and an unfavorable economic environment. Accordingly, Recurrent Energy's margin is in line with expectations as the company shifts attention to focus on projects and development, being less sensitive to the aforementioned factors. The overall gross margin of 16.8% in 2023 is significantly lower than the median margin of competitors, which has remained stable around 22.0% for the last three years (see Appendix T).

OpEx are not considered at segment level because historical data shows a more coherent view at group level. From 2019, operating expenses decreased steadily from 14.4% to 10.9% of revenues. Canadian Solar's OpEx consist of selling and distribution expenses, G&A expenses, R&D expenses, and other operating income. Selling and distribution expenses rose from 2019 to 2022 in absolute terms but declined in 2023. The share of revenues decreased from 5.6% in 2019 to 4.9% in 2023. G&A expenses as percentage of revenues declined too, from 7.6% in 2019 to 5.8% in 2023. Although Canadian Solar puts emphasis on innovation and product development, the fraction of R&D costs in terms of revenues decreased slightly from 1.5% in 2019 to 1.3% in 2023 which equals a rise in absolute terms from $47 million to $101 million. This suggests a successful streamlining of operations expanding across geographies, improving operational efficiency and benefiting from the increasing company size (see Appendix U).

The development of EBIT from 2019 to 2023 reflects the impact of external challenges, such as the COVID-19 pandemic and supply chain disruptions, followed by a strong recovery. In 2019, EBIT was $259 million, but it declined to $220 million in 2020, a 14.9% decrease, influenced by the pandemic's initial economic shock and its effect on revenues and operational efficiency. The downward trend continued in 2021, with EBIT dropping further to $190 million, a 13.6% decline, as ongoing supply chain disruptions and raw material shortages created cost pressures and hindered production capabilities. However, from 2022 onwards, the company saw a significant turnaround. In 2022, EBIT surged to $356 million, a substantial 87.2% increase, as the company managed to overcome the pandemic's challenges and began benefiting from stabilizing supply chains and increased demand for solar energy. This upward trend continued into 2023, with EBIT reaching $453 million, a 27.3% rise, reflecting strong growth driven by improved market conditions, operational efficiencies, government subsidies, and recovery from earlier disruptions. Overall, the EBIT development demonstrates how the company navigated external shocks, including the pandemic and supply chain issues, and successfully returned to profitability with robust growth in the later years (see Appendix V).

EPS is another crucial financial metric, especially for investors. In 2019, EPS of Canadian Solar amounted to $2.83. However, diluted EPS decreased to $2.38 in 2020 and further to $1.46 in 2021 due to reduced net income. With a much better operational and financial performance of the company in 2022, the metric rose to \$3.44 per share. This upward trend continued in 2023, resulting in EPS of \$3.87 in 2023. Despite the positive development in recent years, Canadian was only able to generate EPS of \$0.21 in the first half of 2024, as the whole operational performance of the firm deteriorated.

D&A expenses are implicitly included in the cost of sales and OpEx, but they can be obtained from the cash flow statement. Since 2019, D&A expenses have consistently ranged between 3.1% and 6.0% of annual revenues. To develop a broader understanding of the financial situation of Canadian Solar, other key metrics must be considered, assessing the balance sheet and the cash flow statement (see Appendix W). Looking at the OCF, the impact of external shocks during 2020 and 2021 is clearly visible. After OCF amounted to \$600 million in 2019, the cash provided from operating activities declined to -\$121 million and -\$408 in 2020 and 2021, respectively. In 2022, a highly improved order situation led to a positive OCF of \$917 million. Mainly driven by reduced short-term notes payable, representing arrangements extending payment dates of payables, OCF decreased to \$685 million in 2023.

Painting a similar picture as the OCF, FCF declined from \$306 million in 2019 to -\$440 million in 2020 and -\$838 million in 2021. After recovering to \$286 million in 2022, FCF decreases to -\$987 million in 2023. The main driver of this development is the increased amount of CapEx which is mostly affected by the purchase of PPE and intangible assets as well as solar power systems. These increased investing activities show Canadian Solar's efforts to increase the level of vertical integration in manufacturing and Recurrent Energy's strategic shift to retain greater ownership of projects (Canadian Solar 2024a, 108). These efforts are also reflected in the historical development of CapEx. CapEx accounted for 22.1% of revenues in 2023, whereas from 2019 to 2022, it ranged between 10.2% and 8.7% of revenues with no consistent trend. Due to the rising revenues, CapEx in absolute terms increased from \$299 million in 2019 to \$647 million in 2022, equaling a CAGR of 29.4% (see Appendix X).

Further, to analyze how effectively Canadian Solar manages to generate profits relative to its assets, equity and capital, key metrics such as ROA, ROE and ROIC are employed. With 3.1% in 2023, the ROA, which considers net income relative to total assets, is almost equal to the ROA of 3.1% in 2019. During this period, the ROA dropped to 1.5% in 2021 and rose to 3.3% in 2022. The median ROA of peer companies is very close to Canadian Solar's, as it grew from 2.9% in 2021 to 3.5% in 2022 and 3.2% in 2023. The ROE follows a similar pattern. This metric is often used as an indicator for returns on investments made by shareholders and equals net income relative to shareholders' equity. After a decline from 12.0% in 2019 to 6.1% in 2021, ROE went up to 15.4% in 2022 due to an increase in net income. In 2023, the ROE reached 14.2% equivalent to a small decrease due to higher equity in the context of CSI Solar's Initial Public Offering (IPO). When compared to the median ROE of similar companies of 11.0% in 2022 and 2023, Canadian Solar generates a higher return for shareholders. Further, to understand whether Canadian Solar is creating value, the ROIC is compared to the cost of capital. A ROIC above the cost of capital implies value creation, while a ROIC below the cost of capital suggests that value is destroyed. The ROIC can be decomposed into the invested capital consisting of issued equity and total debt, as well as NOPLAT. Due to lower profitability the ROIC declined from 5% in 2019 to 2.6% in 2021. In 2022, profitability rose and led to an increase of the ROIC to 4.9%. Even though income rose further in 2023, ROIC decreased due to higher invested capital in the context of CSI Solar's IPO. The median competitors' ROIC ranged between 7.1% and 7.3% in the last three years, implying an underperformance of Canadian Solar.

The D/E ratio is used here to assess Canadian Solar's solvency and leverage by comparing its debt to shareholders' equity. With debt increasing from $1.96 billion in 2019 to $3.65 billion in 2023, Canadian Solar shows a relatively constant D/E ratio which decreased from 1.40 in 2019 to 1.34 in 2022 and rose to 1.43 in 2023. This implies a stable capital structure. When assessing the interest cover of Canadian Solar, the EBITDA relative to the interest expense is examined to evaluate whether the business generates enough money to pay its financial obligations. Since 2019, the interest cover increased from 5.1 to 6 in 2020 and 8.1 in 2021. After that, the interest cover decreased to 8.0 in 2022 and 6.7 in 2023. This metric implies that Canadian Solar's operations provide sufficient funds to cover its interest expense (see Appendix Y).

Overall, the financial analysis shows that Canadian Solar has a robust financial performance, even though its results are affected by challenges like the COVID-19 pandemic, shrinking margins and a highly competitive industry. Measures to cope with these challenges are also visible in the financial statements. Lower margins compared to competing companies threaten profitability on the one hand but indicate opportunities for potential operational improvements on the other. The efficiency of generating profits and the capital structure are stable and partly above industry performance, implying a substantial degree of financial health of Canadian Solar.

4.1.2 Modeling Assumptions

A detailed overview of all assumptions for Canadian Solar is presented in Appendix Z.

4.1.2.1 Growth Assumptions

First, to approximate revenues in the second half of 2024, Canadian Solar's revenue guidance from its Q2 Investor Presentation is used and weighted by segment based on data from 2023. Appropriately forecasting Canadian Solar's future revenues for 2025 and beyond requires a deep dive into the individual products and services of its segments, as both segments are linked to the PV solar and battery energy storage market. The CSI Solar segment can be split into solar modules, solar system kits, battery energy storage solutions, as well as EPC and others.

On the one hand, revenues stemming from solar modules are forecasted by the growth of total additional installations of PV solar modules in Giga Watts (GW), combined with the price development of solar modules, as these factors both affect turnover. Table 5 shows that future additions of PV solar installations are expected to grow annually between 12% and 20% (SolarPower Europe 2024). This pattern is driven by an increased forecasted level of PV solar installations across the world combined with a substantial growth in demand for solar PV power due to cost improvements, product availability and favorable regulations.

Table 1. Solar PV Market Additions.

		2024	2025	2026	2027	2028	2029
Additions	*GW*	539	614	688	772	876	1,037
% Growth	*%*	*19.5%*	*13.9%*	*12.1%*	*12.2%*	*13.5%*	*18.3%*

Prices of solar modules have dropped significantly over the last few years and could further decline by 10% annually until 2030 (Buckley and Dong 2023). Therefore, the anticipated market growth for PV solar installations is adjusted to account for this pricing development. Revenues from solar system kits originate from the sale of ready-to-install packages of solar modules. This subsegment is forecasted to grow at a rate consistent with the expansion of PV solar installations. Conversely, the development of battery energy storage solutions is expected to align with the growth dynamics of the battery energy storage market. Concerning the growth of the battery energy storage sector (see Table 6), the global market size grows by 12% to 14% per year (Extrapolate 2022a). Moreover, EPC and others include services conducted for solar power and battery storage projects and are therefore forecasted to develop with a merged growth rate from the PV solar installations growth and the battery energy storage market.

Table 2. Battery Energy Storage Market.

		2024	2025	2026	2027	2028	2029
Market Value	*bnUSD*	8.57	9.60	10.77	12.13	13.71	15.57
% Market Growth	*%*	*11.6%*	*12.0%*	*12.2%*	*12.6%*	*13.0%*	*13.6%*

Recurrent Energy's operations can be decomposed into solar power and battery storage asset sales, power services and asset management, as well as electricity revenues from the operating portfolio. As the sale of assets is related to both markets, the solar and battery energy storage market, revenues in this field are projected to grow at a combined rate. Power services and asset management as well as electricity revenues come from the solar plants and are consequently predicted to grow according to the rate of additions of PV solar installations.

At group level, Canadian Solar's guidance implies revenues of $6.50 billion for the full year 2024 which is equal to a 14.6% decline. Overall revenue growth rates vary from 4.1% to 10.3% between 2025 and 2029, reaching net revenues of $8.70 billion in 2029 that are split as depicted in Table 7 (see Appendix AA for a revenue forecast on product level).

Table 3. Revenue Composition of Canadian Solar.

		2024	2025	2026	2027	2028	2029
Net Revenue	*mUSD*	6,500	6,868	7,147	7,459	7,885	8,697
CSI Solar	***mUSD***	**6,075**	**6,407**	**6,653**	**6,929**	**7,311**	**8,057**
Recurrent Energy	***mUSD***	**425**	**460**	**494**	**530**	**574**	**639**
% Net Revenue Growth	*%*	*-14.6%*	*5.7%*	*4.1%*	*4.4%*	*5.7%*	*10.3%*

4.1.2.2 Cost Structure Assumptions

For CSI Solar, a slight recovery in gross margin is anticipated, from 15.6% in 2023 to 18.3% by 2028, due to improved production efficiency and product diversification. Driver of this development is the smaller expected drop in selling prices of solar modules compared to 2023, combined with the continued trend of decreasing manufacturing costs (Canadian Solar 2024a, 100). Recurrent Energy's gross margin is forecasted to increase to 25.0% in 2028, driven by a strategic shift toward retaining assets rather than selling them, which could result in lower operating costs. At the group level, operating expenses are projected to decrease gradually to 10.0% of revenues by 2028, reflecting efficiency boosts due to operational improvements.

The effective tax rate, averaged from 2019 to 2023 (excluding an outlier in 2020), is estimated at 21.1% and will be applied to calculate NOPLAT. Regarding D&A expenses, a historical average of 4.7% of revenues is used to forecast D&A through 2029. With increasing company size in terms of operations and revenues, D&A expenses is assumed to develop accordingly, as additional assets, especially in PPE, will have to be depreciated/amortized. Further, CapEx needs to be analyzed to understand the company's future investment strategy and how this aligns with its projected financial landscape. While historical data shows relatively high CapEx between 8.7% and 22.1% of revenues, an analysis of comparable companies over the last four years resulted in medians between 4.8% and 10.3% of revenues (see Appendix BB). Therefore, after deducting CapEx of 10.2% of revenues from Canadian Solar's guidance for the second half of 2024, the level of CapEx as a percentage of revenues slowly declines to 7.5% in 2028.

Finally, understanding the evolution of NWC is crucial, as it impacts FCF projections. Assuming 2.0% of revenues as operating cash (Mauboussin and Callahan 2022, 7), a historical median of 2.2% of revenues for change in NWC is obtained and is subsequently used in the model. The median is used as it is more robust to outliers, of which there have been several in recent years due to the previously mentioned crises (Appendix CC).

4.1.3 Valuation

With the assumptions derived in the section above, UFCF can be deducted. To begin, NOPLAT is calculated by subtracting taxes from the company's EBIT. Applying the historical tax rate of 21.1% results in a NOPLAT of $162 million in the second half of 2024, increasing to $350 million in 2025, and reaching $600 million by 2029 (see Table 8).

Table 4. Calculation of Canadian Solar's NOPLAT.

		HY2 2024	2025	2026	2027	2028	2029
Revenues	*mUSD*	3,535	6,868	7,147	7,459	7,885	8,697
% Growth	*%*	-14.6%	5.7%	4.1%	4.4%	5.7%	10.3%
Cost of Sales	*mUSD*	(2,947)	(5,702)	(5,897)	(6,117)	(6,407)	(7,066)
Gross Profit	*mUSD*	589	1,165	1,249	1,343	1,478	1,630
% Gross Margin	*%*	*16.7%*	*17.0%*	*17.5%*	*18.0%*	*18.7%*	*18.7%*
Operating Expenses	*mUSD*	(384)	(721)	(750)	(765)	(788)	(870)
% of Revenues	*%*	*10.9%*	*10.5%*	*10.5%*	*10.3%*	*10.0%*	*10.0%*
EBIT	*mUSD*	205	444	499	578	689	761
Taxes	*mUSD*	(43)	(94)	(105)	(122)	(146)	(161)
% Tax Rate	*%*	*21.1%*	*21.1%*	*21.1%*	*21.1%*	*21.1%*	*21.1%*
NOPLAT	***mUSD***	**162**	**350**	**394**	**456**	**544**	**600**

In the next step, adjustments to NOPLAT are made to reconcile FCF, accounting for D&A, CapEx, and changes in NWC. While D&A is a non-cash charge, CapEx and changes in NWC represent cash outflows. After these adjustments, free cash flows are calculated, beginning with -$107 million in the second half of 2024, turning positive in 2027, and reaching $170 million in 2029 (see Table 9).

Table 5. Reconciliation of Canadian Solar's Free Cash Flow.

		HY2 2024	2025	2026	2027	2028	2029
NOPLAT	*mUSD*	**162**	**350**	**394**	**456**	**544**	**600**
(+) Depreciation and Amortization	*mUSD*	166	323	336	351	371	409
% of Revenues	*%*	*4.7%*	*4.7%*	*4.7%*	*4.7%*	*4.7%*	*4.7%*
(-) Capital Expenditures	*mUSD*	(359)	(652)	(643)	(597)	(591)	(652)
% of Revenues	*%*	*10.2%*	*9.5%*	*9.0%*	*8.0%*	*7.5%*	*7.5%*
(-) Increase in NWC	*mUSD*	(76)	(148)	(154)	(161)	(170)	(187)
% of Revenues	*%*	*2.2%*	*2.2%*	*2.2%*	*2.2%*	*2.2%*	*2.2%*
Free Cash Flow (FCF)	*mUSD*	**(107)**	**(127)**	**(67)**	**50**	**154**	**170**

The DCF model also requires estimating the cash flows beyond the forecast period of 5.5 years. As the free cash flow grew by 10.5% in 2029, it is unrealistic to assume such a sharp and substantial decline in growth rates. To avoid this, an intermediate period of five years until 2034 is introduced. During this period, the growth rate of the free cash flow will decline linearly until reaching the terminal growth rate of 2.0% in 2034 (see Table 10).

Table 6. Cash Flow Growth of Canadian Solar 2029-2034.

		2029	2030	2031	2032	2033	2034
Free Cash Flow (FCF)	*mUSD*	**170**	**185**	**198**	**209**	**216**	**221**
FCF Growth	*%*	10.5%	8.8%	7.1%	5.4%	3.7%	2.0%

To discount these free cash flows, a company-specific WACC needs to be calculated. The adjusted beta of Canadian Solar is equal to 1.17 (LSEG 2024). The risk-free rate equals the interest rate of U.S. government bonds with a maturity of ten years, which corresponds to 4.31% in June 2024 (FRED 2024b). The market risk premium is calculated based on the geographical revenue split in 2023, with each country receiving a credit spread based on its rating (Damodaran 2024). For its distribution of revenues by country, Canadian Solar receives a market risk premium of 6.05% which results in a cost of equity of 11.38%. For the cost of debt, a debt beta of 0.05 is derived based on its credit rating (Schwert and Strebulaev 2014, 32). By adding the market risk premium multiplied by beta to the risk-free rate, a cost of debt of 4.61% is calculated. To weigh the cost of capital, an equity-to-value ratio of 18.9% and a corresponding debt-to-value ratio of 81.1% are derived from the market value of equity and book value of debt, as of June 30, 2024. After adjusting the cost of debt for the tax shield using a tax rate of 21.11%, the WACC amounts to 5.10% (see Appendix DD).

With a perpetual growth rate of 2.0%, in line with the assumptions in the Enphase model, the terminal value is calculated using the Gordon growth model. The growth rate of 2.0% reflects the development of mature economies and is slightly below the expected long-term inflation rate. As of 2034, the terminal value is estimated at $7.25 billion. Discounting the projected UFCF and the terminal value, an enterprise value of approximately $4.99 billion is estimated.

To derive the equity value, the enterprise value is adjusted for net debt and non-controlling interests. Subtracting net debt of $2.77 billion and non-controlling interests of $1.13 billion yields an equity value of $1.08 billion. Dividing the equity value by approximately 67 million outstanding diluted shares, this results in an implied share price of $16.16 (see Appendix EE). Given Canadian Solar's actual closing share price of $14.75 on June 28, 2024, the valuation suggests that the stock may be slightly undervalued in the market based on these assumptions. It is important to note that other factors which cannot be quantified like management and political uncertainty, as well as different perceptions about growth opportunities have an impact on the actual share price what ultimately can lead to deviations from this valuation.

Finally, a sensitivity analysis explores the impact of the WACC and terminal growth rate on the valuation outcome. This examination underscores the dependence of the share price on underlying assumptions, highlighting the importance of these parameters. Minimal changes in these variables can lead to a change in share price of up to 73% (see Appendix FF).

4.2 Enphase Energy

Enphase Energy's financial statements indicate a high degree of financial health and resilience. Our valuation finds a share price of $87.69 on June 28, 2024 (Closing price for the valuation date: $92.70). Relevant information can be found in Appendices C to P.

GROUP PART II

5. Proposed Transaction

5.1 Assumptions

After having analyzed the standalone companies and valued their stocks, this section now discusses the assumptions of the merger required for a comprehensive valuation. These assumptions include synergies, deal structuring and other projections. The transaction is assumed to take place on June 30, 2024. The form of the consideration is assumed to be cash, as this limits the risk of overpayment and is often the preferred payment method of the acquirer, delivering higher post-merger returns (Renneboog and Vansteenkiste 2019).

5.1.1 Synergies

One of the main reasons behind this merger is the operational improvements and financial implications coming from potential synergies. As discussed in previous sections, synergies are divided into cost synergies and revenue synergies. To accurately estimate those synergies, an analysis of 260 deals across industries over the past decade has been conducted.

5.1.1.1 Cost Synergies

Cost synergies are calculated as a percentage of total operating costs (cost of sales + SG&A), with a median of 1.42% (see Appendix GG). While headquarter-level and purchasing synergies can be implemented quickly, R&D and manufacturing synergies may take up to two years due to restructuring needs (Feix 2020, 263). Reflecting this, only 25% of cost synergies ($15 million) are realized in 2024. By 2025, two-thirds ($78 million) are achieved as SG&A reductions are complete, and R&D and manufacturing begin yielding results. Full realization occurs in 2026, reaching $124 million and growing to $160 million by 2029.

5.1.1.2 Revenue Synergies

Revenue synergies are estimated as a percentage of revenues, with a conservative rate of 1.00% applied instead of the median 1.34% observed in past deals (see Appendix HH) due to the risk of overestimation, a common cause of failed mergers (Haller, Farmer, and Kumar 2022). These synergies often materialize over the long term, typically after two years (Feix 2020, 263). Thus, no revenue synergies are considered for 2024. In 2025, 50% of the 1.00% rate is applied, equating to $46 million. Full realization occurs in 2026, with synergies increasing from $100 million in 2026 to $135 million in 2029 as revenues grow.

5.1.2 Deal Assumptions and Deal Structuring

To value the merged company, the acquisition price, financing, and resulting capital structure must be considered, as they significantly impact the valuation. This section includes assumptions for DCF, A/D analysis, and other valuation techniques.

M&A offers typically include a premium, which is influenced by synergies, the target's financials, market conditions, and regulatory factors. In the energy sector, the average premium is 24.6% (Thomson Reuters 2018, 4). With Canadian Solar's stock price at $17.16, the implied offer price is $21.41, resulting in an acquisition price of $1.43 billion.

Transaction fees are usually 1.0% of the deal volume, totaling $14 million. Restructuring costs are estimated at 3.9% of Canadian Solar's 2023 revenue, amounting to $297 million (Kaske 2023). One third of this occurs in 2024 ($99 million), and the rest in 2025 ($198 million). The target's debt is repaid to facilitate new debt issuance. Enphase will use Canadian Solar's excess cash to reduce net debt, which amounts to $2.77 billion. Financing fees for the debt issuance are 0.6% of the deal value, totaling $25 million. Total transaction costs, including equity buyout and debt repayment, amount to $4.35 billion (see Appendix II).

Enphase will use its $1.60 billion in excess cash first. The remaining funding will come from debt issuance, based on the merged company's debt capacity. Using Canadian Solar's debt-to-EBITDA ratio of 3.9, the merged entity can issue $2.75 billion in debt, avoiding the need for new equity issuance. This results in a total-debt-to-EBITDA ratio of 3.2. Pro forma balance sheet details are in Appendix JJ. For the DCF valuation, the combined tax rate is adjusted based on the tax rates and 2023 pretax income of both companies, resulting in a rate of 18.3%.

5.2 Valuation of the Merged Entity

5.2.1 DCF Valuation

To compute the UFCF of the merged entity, several steps are required. First, in the calculation of EBIT, the revenue- and cost synergies must be considered. While restructuring and transaction fees are subtracted as well, financing fees for the arrangement of debt are not part of the scope of UCFC. NOPLAT is derived by subtracting the tax expense from EBIT. The merged entity is projected to have a NOPLAT of $278 million in the second half of 2024, which rises further from $777 million in 2025 to $2.06 billion in 2029 (see Table 11).

Table 7. Calculation of Merged Entity's NOPLAT.

		HY2 2024	2025	2026	2027	2028	2029
Combined Revenues	*mUSD*	4,572	9,273	10,007	10,860	11,928	13,504
Revenue Synergies	*mUSD*	-	46	100	109	119	135
% Revenue Synergies of Revenues	*%*	*0.00%*	*0.50%*	*1.00%*	*1.00%*	*1.00%*	*1.00%*
Total Revenue	***mUSD***	**4,572**	**9,319**	**10,107**	**10,968**	**12,047**	**13,639**
Combined COGS and OpEx	*mUSD*	(4,134)	(8,248)	(8,772)	(9,353)	(10,070)	(11,276)
Savings from Cost Synergies	*mUSD*	15	78	124	132	143	160
% Cost Synergies of COGS + OpEx	*%*	*0.35%*	*0.94%*	*1.42%*	*1.42%*	*1.42%*	*1.42%*
Total COGS	*mUSD*	**(4,119)**	**(8,171)**	**(8,648)**	**(9,220)**	**(9,927)**	**(11,116)**
Restructuring Fees	*mUSD*	(99)	(198)	-	-	-	-
Transaction Fees	*mUSD*	(14)	-	-	-	-	-
EBIT	*mUSD*	**340**	**951**	**1,459**	**1,748**	**2,120**	**2,523**
Taxes	*mUSD*	(62)	(174)	(266)	(319)	(387)	(461)
% Tax Rate	*%*	*18.3%*	*18.3%*	*18.3%*	*18.3%*	*18.3%*	*18.3%*
NOPLAT	***mUSD***	**278**	**777**	**1,192**	**1,429**	**1,733**	**2,062**

To reconcile the UFCF, NOPLAT must be adjusted for D&A, CapEx and changes in NWC. After a negative UFCF of -$66 million in the last two quarters of 2024, UFCF increases to $126 million in 2025 and grows further, reaching $1.28 billion in 2029 (see Table 12).

Table 8. Reconciliation of Merged Entity's Free Cash Flow.

		HY2 2024	2025	2026	2027	2028	2029
NOPLAT	*mUSD*	**278**	**777**	**1,192**	**1,429**	**1,733**	**2,062**
(+) Depreciation and Amortization	*mUSD*	194	388	413	442	479	538
% of Revenues	*%*	4.2%	4.2%	4.1%	4.1%	4.0%	4.0%
(-) Capital Expenditures	*mUSD*	(415)	(782)	(797)	(780)	(809)	(911)
% of Revenues	*%*	9.1%	8.4%	7.9%	7.1%	6.7%	6.7%
(-) Increase in NWC	*mUSD*	(123)	(257)	(284)	(315)	(354)	(406)
% of Revenues	*%*	2.7%	2.8%	2.8%	2.9%	2.9%	3.0%
Free Cash Flow (FCF)	*mUSD*	**(66)**	**126**	**524**	**776**	**1,050**	**1,283**

With this transaction, the calculation of a new WACC is required. While the risk-free rate of 4.31% does not change, adjustments towards the beta, market risk premium and implied debt beta must be considered. For the beta and the market risk premium, an average of Enphase and Canadian Solar, weighted by the market value of equity, is used, as the beta of a portfolio is equal to the weighted average of betas in the portfolio (Berk and DeMarzo 2017, 244). This results in a levered beta of 1.43 and a market risk premium of 4.71%, leading to a cost of equity of 11.04%. To calculate the cost of debt, a moderate debt beta of 0.05 is assumed, resulting in a new cost of debt of 4.55%. Additionally, the changes in capital structure impact the WACC as well. With a total debt of $4.04 billion which is composed of existing debt of Enphase and newly issued debt for the transaction, as well as the market value of equity, a debt-to-value ratio of 24.31% is computed. Considering the corresponding equity-to-value ratio of 75.69% and the combined tax rate of 18.27%, the WACC amounts to 9.26% (see Appendix KK).

After the forecast period of 5.5 years, a gradual transition from the free cash flow growth rate of 22.2% in 2029 towards the terminal growth rate of 2.0% is required. Until 2034, the growth of the free cash flows declines linearly to 2.0% (see Table 13).

Table 9. Cash Flow Growth of Merged Entity 2029-2034.

		2029	2030	2031	2032	2033	2034
Free Cash Flow (FCF)	*mUSD*	**1,283**	**1,516**	**1,730**	**1,904**	**2,019**	**2,060**
FCF Growth	*%*	22.2%	18.2%	14.1%	10.1%	6.0%	2.0%

To determine the terminal value beyond 2034, the Gordon Growth model is used. Consistent with the standalone valuations, the UFCF of the merged entity is assumed to grow by the same 2.0% annually. This yields a terminal value of $28.95 billion, as of 2034. After discounting this value back to the valuation date and adding the present value of UFCF for the forecasted period, an enterprise value of $18.28 billion is found, which exceeds the standalone enterprise values.

To compute the equity value and the implied share price, adjustments for net debt and non-controlling interests must be made. With newly issued debt, the cancellation of Canadian Solar's cancelled debt and the usage of excess cash, net debt for the merged company amounts to $4.04 billion equaling total debt. After deducting net debt and non-controlling interests of $1.13 billion, the estimated equity value amounts to $13.11 billion. By dividing the enterprise value by Enphase's 136 million outstanding shares, a share price of $96.55 is approximated (see Appendix LL). This share price exceeds the standalone share price of Enphase of 92.70, implying a rise in enterprise- and equity value compared to the standalone companies.Finalizing the DCF valuation of the merged company, a sensitivity analysis exploring the impact of changes in WACC and terminal growth rate is conducted (see Appendix MM). This analysis shows once more how sensitive the share price is to slight changes in these variables, emphasizing the importance of an accurate forecast.

5.2.1 Deal Evaluation Metrics

To evaluate the transaction's success, value creation from operational improvements, quantified by cost- and revenue synergies, is assessed. The present value of synergies is compared to the premium paid on Canadian Solar's share price. With an offer of $21.41 per share, a 24.75% premium, totaling $285 million, is paid. The present value of synergies, calculated by discounting post-tax cost- and revenue synergies at the combined entity's WACC, grows from $12 million in 2024 to $241 million in 2029, and reaches $1.50 billion from 2030 to 2034 (see Table 14). The terminal value, discounted to 2024, is $1.80 billion. Adding both components, the present value of synergies is $3.20 billion, exceeding the premium by $2.91 billion (see Appendix NN). The payback period for the premium is 2.43 years, meaning synergies will recover the premium by the end of 2026. Despite not accounting for time value of money, the comparison of premium and synergies indicates a successful transaction and medium-term value creation.

Table 10. Present Value of Synergies.

		HY2 2024	2025	2026	2027	2028	2029
Synergies (Post-Tax)	*mUSD*	12	102	183	197	214	241
Present Value of Synergies	*mUSD*	11	89	147	145	144	148

		2029	2030	2031	2032	2033	2034
Synergies (Post-Tax)	*mUSD*	241	266	288	306	319	325
Present Value of Synergies	*mUSD*	148	150	148	144	137	128

The transaction's ROIC is key to assessing its success. ROIC is calculated by dividing the return (target's NOPLAT plus synergies) by the invested capital, totaling $4.23 billion, which includes the equity buyout, debt repayment, and financing fees. In 2024, with Canadian Solar's NOPLAT of $162 million and synergies of $12 million, the ROIC is 4.1%. In 2025, the combined return of $452 million results in a ROIC of 10.68%, growing to $841 million (19.87% ROIC) in 2029 (see Table 15). With a WACC of 9.26%, the transaction generates value from 2025 onward.

Table 11. ROIC of the Transaction.

		HY2 2024	2025	2026	2027	2028	2029
Return	*mUSD*	174	452	577	653	758	841
ROIC	*%*	4.10%	10.68%	13.64%	15.43%	17.91%	19.87%

		2029	2030	2031	2032	2033	2034
Return	*mUSD*	841	918	986	1,041	1,081	1,102
ROIC	*%*	19.87%	21.69%	23.30%	24.60%	25.53%	26.04%

To evaluate the transaction, the NPV of the investment is calculated, considering the FCF of Canadian Solar and post-tax synergies. With an initial investment of $4.23 billion, a terminal growth of 2.0%, and a discount rate of 9.26%, the NPV is $649 million, indicating a positive return and supporting the deal (see Appendix OO). A sensitivity analysis shows that if only 75% of projected synergies are realized, the NPV turns negative (see Appendix PP). This highlights the risk of inaccurate forecasts or failed integration, underscoring the need for the acquirer to bear a larger share of the synergies.

5.2.2 Accretion/Dilution Analysis

An A/D analysis evaluates whether the acquirer's shareholders benefit from the transaction by comparing post-merger EPS. A 2.5-year horizon, including 2026, is reasonable as full integration is expected by then. While not indicative of value creation, EPS trends often influence investor expectations and share prices. Changes in capital structure impact pro forma EPS but do not reflect operational synergies.

Standalone net income for Enphase is estimated using adjusted EBIT. For the merged entity, pretax income includes transaction effects. New debt of $2.75 billion at a 4.55% cost adds $125 million in annual interest, while repaying Canadian Solar's $4.24 billion debt reduces interest expense by $196 million. Transaction fees total $113 million in 2024 and $198 million in 2025, while $25 million in financing fees, amortized over five years, adds $5 million annually. Forgone interest on Enphase's $1.60 billion cash at a 4.31% risk-free rate reduces pretax income by $34 million in 2024, $70 million in 2025, and $74 million in 2026 (see Appendix QQ).

Synergies contribute $15 million in late 2024, $126 million in 2025, and $224 million in 2026. These adjustments yield pro forma pretax income of $117 million in 2024, $692 million in 2025, and $1.20 billion in 2026. After applying an 18.27% tax rate, net income reaches $96 million in 2024, $566 million in 2025, and $979 million in 2026. With 136 million shares post-transaction, pro forma EPS is $0.70 in 2024, $0.38 below the standalone $1.08 due to front-loaded fees and limited initial synergies. By 2025, pro forma EPS rises to $4.17, $0.94 above the standalone $3.23, reflecting 29% accretion. In 2026, pro forma EPS reaches $7.21, 72% higher than standalone EPS of $4.19 (see Appendix RR). The analysis highlights long-term benefits for Enphase shareholders despite initial EPS dilution from transaction costs and capital restructuring. By 2025 and 2026, full integration and synergies drive significant accretion, making the transaction favorable for shareholders.

6. Conclusion

This work project proposes a merger between Enphase Energy and Canadian Solar, leveraging the renewable energy sector's high growth potential, projected at a 14% CAGR. The merger combines Enphase's expertise in microinverters and energy management with Canadian Solar’s strength in high-efficiency PV modules and large-scale projects, creating a comprehensive solar energy solution spanning generation, conversion, and storage.

Both companies exhibit solid financials and positive outlooks despite 2024 challenges. Enphase’s intrinsic value is $87.69 per share (slightly below its $92.70 market price), indicating overvaluation. Canadian Solar’s intrinsic value is $16.16 per share (above its $14.75 market price), suggesting slight undervaluation. Estimated synergies include 1.00% of revenues and 1.42% of operating costs, fully realized by 2026. The all-cash deal restructures capital with debt repayment, new debt issuance, and cash reserves. The combined entity’s DCF valuation implies a share price of $96.55. Key metrics, including a $649 million positive NPV, returns exceeding WACC within 1.5 years, a combined EV surpassing standalone values, and stock accretion for shareholders, underscore the merger’s value creation. The added EV reflects operational efficiencies and a stronger market position, while stock accretion highlights shareholder benefits.

In conclusion, this strategically sound merger capitalizes on complementary strengths, aligns with the solar market’s growth, and delivers significant value through operational efficiencies and revenue expansion. It positions the combined entity as a competitive force in the renewable energy sector. However, success depends on financial model assumptions, market conditions, economic shifts, and political factors.

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Appendices

Appendix A. Implied Shared Prices from Comparable Transaction Analysis.

Enphase		EV/Revenue	EV/EBITDA	EV/EBIT	P/E
25th Percentile	*USD*	26.82	35.65	49.98	47.80
Median	*USD*	69.33	66.42	103.39	110.02
Average	*USD*	295.45	100.35	153.28	1,875.46
75th Percentile	*USD*	139.26	102.86	147.60	205.18

Canadian Solar		EV/Revenue	EV/EBITDA	EV/EBIT	P/E
25th Percentile	*USD*	122.39	47.30	44.74	1.78
Median	*USD*	408.76	138.41	154.83	79.96
Average	*USD*	1,931.97	238.86	257.68	2,298.22
75th Percentile	*USD*	879.83	246.31	245.97	199.53

Appendix B. Implied Shared Prices from Comparable Company Analysis.

Canadian Solar		EV/Revenue	EV/EBITDA	EV/EBIT	P/E	P/B
25th Percentile	*USD*	65.07	34.28	31.66	59.16	43.09
Median	*USD*	252.34	82.63	68.62	87.55	71.81
Average	*USD*	579.62	218.67	173.72	129.45	106.89
75th Percentile	*USD*	487.44	182.71	155.10	141.97	129.35

Enphase		EV/Revenue	EV/EBITDA	EV/EBIT	P/E	P/B
25th Percentile	*USD*	78.33	100.92	133.00	109.73	-4.95
Median	*USD*	128.77	111.05	153.87	129.11	29.12
Average	*USD*	363.78	191.96	249.19	259.18	27.65
75th Percentile	*USD*	199.97	142.82	199.08	244.69	60.12

Appendix C. Enphase Energy Historical Income Statement.

in USD million	2019	2020	2021	2022	2023	2024	2024	2024
Years ended December 31	FY	FY	FY	FY	FY	Q1	Q2	HY1
Net revenues	**624**	**774**	**1,382**	**2,331**	**2,291**	**263**	**303**	**567**
Cost of revenues	403	428	828	1,356	1,232	148	166	314
Gross profit	221	346	554	975	1,058	116	137	253
Operating expenses:								
Research and development	40	56	106	169	227	54	49	103
Sales and marketing	37	53	129	215	232	53	52	105
General and administrative	39	51	104	140	138	35	34	69
Restructuring and asset impairment charges	3	-	-	2	16	2	1	3
Total operating expenses	119	160	339	526	613	145	135	280
Income from operations (EBIT)	**103**	**186**	**216**	**448**	**446**	**(29)**	**2**	**(27)**
Other income (expense), net								
Interest income	3	2	1	14	70	20	19	39
Interest expense	(10)	(21)	(45)	(9)	(9)	(2)	(2)	(4)
Other income (expense), net	(5)	(1)	6	(0)	7	0	(8)	(7)
Loss on partial settlement of convertible notes	-	(3)	(56)	-	-	-	-	-
Change in fair value of derivatives	-	(44)	-	-	-	-	-	-
Total other income (expense), net	(13)	(67)	(95)	4	67	18	9	27
Income before income taxes	90	119	121	452	513	(11)	11	(0)
Income tax benefit (provision)	71	15	25	(55)	(74)	(5)	(0)	(5)
Net income	**161**	**134**	**145**	**397**	**439**	**(16)**	**11**	**(5)**
Net income per share (EPS):								
Basic	$ 1.38	$ 1.07	$ 1.09	$ 2.94	$ 3.22	$ -0.12	$ 0.08	$ -0.04
Diluted	**$ 1.23**	**$ 0.95**	**$ 1.02**	**$ 2.77**	**$ 3.08**	**$ -0.12**	**$ 0.08**	**$ -0.04**
Shares used in per share calculation:								
Basic	116.7	125.6	134.0	135.3	136.4	135.9	135.6	135.8
Diluted	131.6	141.9	142.9	144.4	143.3	135.9	136.1	135.8

Appendix D. Enphase Energy Historical Balance Sheet.

in USD million	Dec-31 2019	Dec-31 2020	Dec-31 2021	Dec-31 2022	Dec-31 2023	Mar-31 2024	Jun-30 2024
ASSETS							
Current assets:							
Cash and cash equivalents	251	679	119	473	289	254	252
Marketable securities	45	-	897	1,140	1,406	1,376	1,394
Accounts receivable, net of allowances	145	182	334	441	446	364	277
Inventory	32	42	74	150	214	208	176
Prepaid expenses and other assets	26	30	38	61	89	101	142
Total current assets	**500**	**933**	**1,462**	**2,264**	**2,444**	**2,303**	**2,242**
Property and equipment, net	29	43	82	111	168	158	152
Operating lease, right of use asset, net	10	18	14	21	20	20	19
Intangible assets, net	31	29	98	100	69	63	57
Goodwill	25	25	181	214	215	214	213
Other assets	45	60	119	169	216	214	204
Deferred tax assets, net	75	93	122	205	252	262	279
TOTAL ASSETS	**713**	**1,200**	**2,079**	**3,084**	**3,383**	**3,233**	**3,167**

LIABILITIES AND EQUITY							
Current liabilities:							
Accounts payable	57	73	114	125	116	72	80
Accrued liabilities	47	77	158	296	262	234	198
Deferred revenues, current	82	48	63	91	118	120	124
Warranty obligations, current	10	11	19	36	36	31	30
Debt, current	3	326	86	91	-	97	99
Total current liabilities	199	534	440	638	532	554	530
Long-term liabilities:							
Deferred revenues, non-current	100	125	187	282	369	359	353
Warranty obligations, non-current	27	35	54	96	153	146	147
Other liabilities	12	17	17	44	51	52	53
Debt, non-current	**103**	**5**	**952**	**1,199**	**1,294**	**1,199**	**1,199**
TOTAL LIABILITIES	**441**	**716**	**1,649**	**2,259**	**2,399**	**2,310**	**2,282**
Commitments and contingencies (Note 14)							
Stockholders' equity:							
Common stock, $ 0.00001 par value	1	1	1	1	1	1	1
Additional paid-in capital	458	535	838	819	939	941	993
Accumulated earnings	(185)	(51)	(406)	17	46	-12	-101
Accumulated other comprehensive loss	(0.9)	0.4	(2.0)	(10.9)	(2.0)	(6.8)	(8.0)
Treasury stock, at cost	-	-	-	-	-	-	-
TOTAL EQUITY	**272**	**484**	**430**	**826**	**984**	**923**	**885**
TOTAL LIABILITIES AND EQUITY	**713**	**1,200**	**2,079**	**3,084**	**3,383**	**3,233**	**3,167**

Appendix E. Enphase Energy Statement of Cash Flows.

in USD million	2019	2020	2021	2022	2023	2024
Years ended December 31	FY	FY	FY	FY	FY	HY1
Cash flows from operating activities:						
Net income (loss)	161.1	134.0	145.4	397.4	438.9	(5.3)
Adjustments to reconcile net income to net cash provided by operating activities:	-	-	-	-	-	-
Depreciation and amortization	14.1	18.1	30.8	58.8	74.7	40.6
Net amortization (accretion) of premium (discount) on marketable securities	-	-	1.6	(2.6)	(15.6)	1.8
Provision for doubtful accounts	0.2	0.4	0.5	0.1	1.2	1.8
Asset impairment	1.1	-	-	1.2	10.6	6.6
Non-cash interest expense	6.1	18.8	44.4	8.2	8.4	4.3
Financing fees on extinguishment of debt	2.2	-	-	-	-	-
Fees paid for repurchase and exchange of convertible notes	6.0	-	-	-	-	-
Loss on partial settlement of convertibles notes	-	3.0	56.5	-	-	-
Deemed repayment of convertible notes attributable to accreted debt discount	-	(3.1)	(15.7)	-	-	-
Gain on settlement of debt securities	-	-	(6.6)	-	-	-
Net gain from change in fair value of debt securities	-	-	(3.0)	(0.7)	(8.1)	1.0
Stock-based compensation	20.2	42.5	114.3	216.8	212.9	113.6
Deferred income taxes	(73.4)	(17.1)	(31.2)	3.6	(43.3)	(22.4)
Change in fair value of derivatives	-	44.3	-	-	-	-
Changes in operating assets and liabilities:	-	-	-	-	-	-
Accounts receivable	(68.7)	(34.3)	(151.2)	(107.6)	(12.5)	159.5
Inventory	(15.8)	(9.7)	(29.3)	(75.3)	(63.9)	37.5
Prepaid expenses and other assets	(14.3)	(14.6)	(26.9)	(68.4)	(59.8)	(53.7)
Accounts payable, accrued and other liabilities	22.2	35.7	117.2	133.4	(22.1)	(90.2)
Warranty obligations	5.8	8.8	27.0	57.8	57.6	(11.9)
Deferred revenues	72.2	(10.5)	78.2	122.2	117.8	(7.0)
Net cash provided by (used in) operating activities	**139.1**	**216.3**	**352.0**	**744.8**	**696.8**	**176.3**
Cash flows from investing activities:	-	-	-	-	-	-
Purchases of property and equipment	(14.8)	(20.6)	(52.3)	(46.4)	(110.4)	(17.0)
Purchase of intangible asset	-	-	(0.3)	-	-	-
Investments in private companies	-	(5.0)	(58.0)	(16.0)	(15.0)	-
Redemption of investment in private companies	-	-	26.6	-	-	-
Business acquisitions, net of cash acquired	-	-	(235.7)	(62.2)	-	-
Purchases of marketable securities	-	-	(935.0)	(907.4)	(2,081.4)	(772.3)
Maturities and sale of marketable securities	-	-	35.0	660.1	1,840.5	779.4
Net cash used in investing activities	**(14.8)**	**(25.6)**	**(1,219.5)**	**(371.9)**	**(366.4)**	**(9.9)**
Cash flows from financing activities:	-	-	-	-	-	-
Issuance of convertible notes, net of issuance costs	127.4	312.4	1,188.4	-	-	(0.0)
Purchase of convertible note hedges	(36.3)	(89.1)	(286.2)	-	-	-
Sale of warrants	29.8	71.6	220.8	-	-	-
Fees paid for repurchase and exchange of convertible notes due 2023	(6.0)	-	-	-	-	-
Principal payments and financing fees on debt	(45.9)	(2.6)	(1.7)	-	-	-
Partial repurchase of convertible notes	-	(40.7)	(290.2)	-	-	-
Proceeds from exercise of equity awards and employee stock purchase plan	5.0	8.4	7.5	10.4	13.9	8.0
Payment of withholding taxes related to net share settlement of equity awards	(8.2)	(68.3)	(29.1)	(27.5)	(120.6)	(67.5)
Repurchase of common stock	-	-	(500.0)	-	(410.0)	(141.9)
Net cash provided by (used in) financing activities	**65.9**	**191.7**	**309.4**	**(17.1)**	**(516.8)**	**(201.5)**
Effect of exchange rate changes on cash and cash equivalents	(0.3)	0.8	(2.0)	(1.9)	1.9	(1.6)
Net increase (decrease) in cash and cash equivalents	189.9	383.3	(560.1)	353.9	(184.5)	(36.6)
Cash and cash equivalents—Beginning of period	**106.2**	**296.1**	**679.4**	**119.3**	**473.2**	**288.7**
Cash and cash equivalents—End of period	**296.1**	**679.4**	**119.3**	**473.2**	**288.7**	**252.1**
Supplemental cash flow disclosure:	-	-	-	-	-	-
Cash paid for interest	2.7	1.9	0.7	0.5	0.5	-
Cash paid for income taxes	1.8	3.5	4.8	33.2	74.7	-
Purchases of property and equipment included in accounts payable	0.7	3.6	7.5	17.4	10.1	5.0
Purchases of property and equipment through tenant improvement allowance	-	-	-	0.7	-	-
Contingent consideration in connection with the acquisition	-	-	3.5	-	-	-
Accrued interest payable unpaid upon exchange of convertible notes due 2023	0.8	-	-	-	-	-

Appendix F. Enphase Peer Analysis.

		2021	2022	2023
Revenue Growth	25th Percentile	8.85%	12.86%	-3.87%
	Median	**15.87%**	**26.68%**	**9.56%**
	75th Percentile	34.58%	50.71%	27.09%
	Enphase	78.46%	68.65%	-1.72%
Gross Profit Margin	25th Percentile	14.31%	11.51%	14.37%
	Median	**25.28%**	**23.28%**	**27.78%**
	75th Percentile	45.09%	43.94%	44.60%
	Enphase	40.12%	41.81%	46.20%
EBITDA Margin	25th Percentile	-0.26%	-3.96%	-6.29%
	Median	**13.29%**	**9.71%**	**14.47%**
	75th Percentile	33.31%	31.72%	35.67%
	Enphase	17.85%	21.75%	22.72%
EBIT Margin	25th Percentile	-16.35%	-18.40%	-10.79%
	Median	**8.01%**	**6.78%**	**9.99%**
	75th Percentile	17.57%	17.16%	18.61%
	Enphase	15.62%	19.23%	19.46%
Return on Assets (ROA)	25th Percentile	-7.06%	-5.86%	-7.33%
	Median	**1.17%**	**1.35%**	**2.26%**
	75th Percentile	2.77%	3.52%	3.90%
	Enphase	7.00%	12.88%	12.97%
Return On Equity - Actual	25th Percentile	-9.89%	-13.13%	-9.84%
	Median	**9.43%**	**11.23%**	**10.83%**
	75th Percentile	15.09%	17.46%	14.59%
	Enphase	33.81%	48.13%	44.62%
Return On Invested Capital - Actual	25th Percentile	-4.41%	-4.82%	-15.65%
	Median	**4.25%**	**3.90%**	**5.28%**
	75th Percentile	6.22%	6.40%	8.24%
	Enphase	10.57%	10.70%	9.71%
EBITDA Net Interest Coverage Ratio	25th Percentile	-0.91	-4.54	-0.40
	Median	**4.89**	**4.63**	**4.09**
	75th Percentile	8.42	6.18	5.56
	Enphase	5.46	53.72	241.40
Current Ratio	25th Percentile	0.95	1.02	0.90
	Median	**1.50**	**1.66**	**1.60**
	75th Percentile	3.06	2.70	2.26
	Enphase	3.33	3.55	4.32
Cash Ratio	25th Percentile	0.11	0.12	0.09
	Median	**0.32**	**0.29**	**0.34**
	75th Percentile	1.16	0.81	0.67
	Enphase	2.31	2.53	3.18

Appendix G. Enphase Energy OpEx Analysis

OpEx		2019	2020	2021	2022	2023	CAGR
Sales and Marketing	*mUSD*	37	53	129	215	232	58.50%
% Growth	*%*	-	*44.1%*	*143.7%*	*66.8%*	*7.8%*	-
% of Revenues	*%*	*5.9%*	*6.8%*	*9.3%*	*9.2%*	*10.1%*	-
G&A expenses	*mUSD*	39	51	104	140	138	37.28%
% Growth	*%*	-	*30.6%*	*105.3%*	*34.5%*	*-1.5%*	-
% of Revenues	*%*	*6.2%*	*6.5%*	*7.5%*	*6.0%*	*6.0%*	-
R&D expenses	*mUSD*	40	56	106	169	227	54.04%
% Growth	*%*	-	*38.5%*	*88.7%*	*60.0%*	*34.6%*	-
% of Revenues	*%*	*6.5%*	*7.2%*	*7.6%*	*7.2%*	*9.9%*	-
Restructuring and Impairment Charges	*mUSD*	3	0	0	2	16	56.73%
% of Revenues	*%*	*0.42%*	*0.00%*	*0.00%*	*0.10%*	*0.68%*	
Total OpEx	*mUSD*	119	160	339	526	613	50.79%
% Growth	*%*	-	*34.6%*	*112.2%*	*55.4%*	*16.4%*	-
% of Revenues	*%*	*19.0%*	*20.6%*	*24.5%*	*22.6%*	*26.7%*	-

Appendix H. Enphase Energy Historical Financials.

Metric		2019	2020	2021	2022	2023	3-Year ⌀	CAGR
Revenue	*mUSD*	**624**	**774**	**1,382**	**2,331**	**2,291**	-	38.4%
% Growth	*%*		*24.0%*	*78.5%*	*68.7%*	*-1.7%*	48.5%	-
Cost of Renevues	*mUSD*	**403**	**428**	**828**	**1,356**	**1,232**	-	32.2%
% Growth	*%*		*6.3%*	*93.2%*	*63.9%*	*-9.1%*	49.3%	-
Gross Profit	*mUSD*	**221**	**346**	**554**	**975**	**1,058**	-	47.9%
% Gross Margin	*%*	35.4%	44.7%	40.1%	41.8%	46.2%	**42.7%**	-
OpEx	*mUSD*	**119**	**160**	**339**	**526**	**613**	-	50.8%
% OpEx Margin	*%*	19.0%	20.6%	24.5%	22.6%	26.7%	**24.6%**	
EBIT	*mUSD*	**103**	**186**	**216**	**448**	**446**	-	44.3%
% Margin	*%*	*16.5%*	*24.1%*	*15.6%*	*19.2%*	*19.5%*	18.1%	-
D&A	*mUSD*	**14**	**18**	**31**	**59**	**75**	-	51.7%
% Growth	*%*		*28.2%*	*70.4%*	*90.5%*	*27.1%*	62.7%	-
% of Revenues	*%*	*2.3%*	*2.3%*	*2.2%*	*2.5%*	*3.3%*	**2.7%**	-
EBITDA	*mUSD*	**117**	**205**	**247**	**507**	**520**	-	45.3%
% Margin	*%*	18.7%	26.4%	17.8%	21.8%	22.7%	20.8%	-
Tax Rate	*%*	**-78.8%**	**-12.2%**	**-20.3%**	**12.1%**	**14.5%**	-17.0%	-

Appendix I. Enphase Energy CapEx Analysis.

		2019	2020	2021	2022	2023
CapEx	*mUSD*	**(15)**	**(26)**	**(110)**	**(62)**	**(125)**
Purchases of PPE	*mUSD*	(15)	(21)	(52)	(46)	(110)
Investments in Private Companies	*mUSD*	-	(5)	(58)	(16)	(15)
% of Revenues	*%*	***2.4%***	***3.3%***	***8.0%***	***2.7%***	***5.5%***

3-Year ⌀	CAGR
5.4%	**70.6%**

Appendix J. Enphase Energy Profitability & Leverage Ratios.

Profitability & Leverage Ratios		2019	2020	2021	2022	2023
Operating Margin	%	16.5%	24.1%	15.6%	19.2%	19.5%
Net Profit Margin	%	25.8%	17.3%	10.5%	17.0%	19.2%
ROA (Net Income / Total Assets)	%	22.6%	11.2%	7.0%	12.9%	13.0%
Return on Equity (Net Income / Shareholder's Equity)	%	59.2%	27.7%	33.8%	48.1%	44.6%
Return on Invested Capital (NOPLAT / Invested Capital)	%	27.8%	14.1%	10.6%	10.7%	9.7%
NOPLAT	*mUSD*	184	209	260	394	381
Invested Capital (Total Debt + Total Equity + Non-operating Cash)	*mUSD*	661	1,479	2,457	3,682	3,927
Current Ratio	-	2.51	1.75	3.33	3.55	4.32
Quick ratio	-	2.22	1.61	3.07	3.22	4.02
D/E ratio (Total Debt / Shareholders' Equity)	-	0.39	0.68	2.41	1.56	1.40
Operating Cash Flow	*mUSD*	139.1	216.3	352.0	744.8	696.8
Free Cash Flow	*mUSD*	124.3	190.8	-867.5	372.9	330.4

Appendix K. Enphase Energy Debt Statistics.

Debt Statistics	2019	2020	2021	2022	2023
Total Debt / EBITDA	0.9x	1.6x	4.2x	2.5x	2.5x
Leverage Cover (Net Debt / EBITDA)	-1.6x	-1.7x	0.1x	-0.6x	-0.7x
Interest Cover (EBITDA / Interest Expense)	**12.1x**	**9.7x**	**5.5x**	**53.7x**	**241.4x**
Interest Coverage (EBIT / Interest Expense)	10.6x	8.9x	4.8x	47.5x	50.4x

Appendix L. Enphase Energy NWC Analysis.

Working Capital		2019	2020	2021	2022	2023
Operational current asset	*mUSD*	**216**	**269**	**473**	**698**	**794**
Operational cash	*mUSD*	12	15	28	47	46
Accounts receivable	*mUSD*	145	182	334	441	446
Inventories	*mUSD*	32	42	74	150	214
Prepaid expenses and other current assets	*mUSD*	26	30	38	61	89
Operational current liabilities	*mUSD*	**196**	**208**	**354**	**547**	**532**
Accounts payable	*mUSD*	57	73	114	125	116
Accrued liabilities	*mUSD*	47	77	158	296	262
Deferred revenues, current	*mUSD*	82	48	63	91	118
Warranty obligations, current	*mUSD*	10	11	19	36	36
NWC	*mUSD*	**20**	**61**	**120**	**151**	**262**
Change in NWC	*mUSD*	**-**	**41**	**59**	**31**	**111**
% of Revenues	%	-	5.4%	4.2%	1.3%	4.9%

Median	CAGR
4.5%	91.2%

Appendix M. Enphase Energy DCF Assumption Overview.

		HY2 2024	2025	2026	2027	2028	2029
Net Revenues Growth	%	-30.0%	50.0%	18.9%	18.9%	18.9%	18.9%
Gross Margin	%	45.2%	45.7%	46.2%	46.7%	47.2%	47.7%
Operating Expenses of Revenues	%	22.7%	21.6%	20.5%	19.4%	18.3%	17.2%
Tax Rate	%	14.0%	14.0%	16.0%	16.0%	18.0%	18.0%
D&A of Revenues	%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%
CapEx of Revenues	%	5.4%	5.4%	5.4%	5.4%	5.4%	5.4%
Change in NWC of Revenues	%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%

Appendix N. Enphase Energy WACC Calculation.

Equity (MV)	12,586	**Cost of Equity**	**10.98%**	**Cost of Debt**	**4.49%**
Debt	1,294	Risk-free rate	4.31%	Impl. Rating	AAA
E / (E + D)	90.68%	Adjusted Beta	1.45	Debt Beta	0.04
D / (E + D)	9.32%	Market Risk Premium	4.60%	Average Tax Rate	16.00%
WACC	**10.31%**				

Appendix O. Implied Share Price of Enphase Energy.

Terminal Value		
Terminal Growth	%	2.00%
Terminal Value 2029	*mUSD*	18,737
Terminal Value 30.06.2024	***mUSD***	**6,688**

Enterprise Value	***mUSD***	**11,603**

EV to Equity Value Bridge		
Net Debt	*mUSD*	-303
Total Debt	*mUSD*	1,298
Excess Cash (& Marketable Securities)	*mUSD*	1,601
Equity Value	***mUSD***	**11,906**

Share price		
Number of shares (basic)	#	135,768,000
Number of shares (diluted)	#	135,768,000
Share price (diluted)	***USD***	**87.69**
Closing price on June 28, 2024	*USD*	92.70

Appendix P. Enphase Energy Sensitivity Analysis Share Price.

		WACC				
		9.81%	10.06%	10.31%	10.56%	10.81%
Terminal Growth Rate	1.80%	92.66	89.29	86.12	83.15	80.34
	1.90%	93.57	90.13	86.90	83.87	81.01
	2.00%	94.49	90.98	87.69	84.61	81.70
	2.10%	95.44	91.86	88.51	85.36	82.40
	2.20%	96.42	92.76	89.34	86.13	83.12

Appendix Q. Canadian Solar Income Statement

in USD million **Years Ended December 31**	**2019** FY	**2020** FY	**2021** FY	**2022** FY	**2023** FY	**2024** HY1
Net revenues	**3,201**	**3,476**	**5,277**	**7,469**	**7,614**	**2,965**
Cost of revenues	2,482	2,787	4,368	6,205	6,334	2,430
Gross profit	718	690	909	1,263	1,280	535
Operating expenses:	-	-	-	-	-	-
Selling and distribution expenses	180	224	399	559	370	220
General and administrative expenses	243	226	309	342	440	196
Research and development expenses	47	45	58	70	101	60
Other operating income, net	(11)	(26)	(47)	(64)	(84)	(37)
Total operating expenses	460	469	719	907	827	438
Income from operations (EBIT)	**259**	**220**	**190**	**356**	**453**	**97**
Other income (expenses):	-	-	-	-	-	-
Interest expense	(81)	(72)	(58)	(74)	(114)	(68)
Interest income	12	9	11	41	52	48
Gain (loss) on change in fair value of derivatives, net	(22)	50	24	(44)	(28)	(17)
Foreign exchange gain (loss), net	10	(65)	(47)	78	31	25
Investment income, net	2	(9)	19	1	15	(1)
Total other income (expenses)	(79)	(86)	(52)	0	(45)	(11)
Income before income taxes and equity in earnings of affiliates	180	134	138	356	409	85
Income tax expense	(42)	2	(36)	(73)	(60)	(15)
Equity in earnings of affiliates	29	11	7	15	15	(7)
Net income	**167**	**147**	**110**	**299**	**364**	**64**
Less: net income attributable to non-controlling interests	(5)	1	15	59	89	47
Net income attributable to Canadian Solar Inc.	172	147	95	240	274	16
Earnings per share — basic	$ 2.88	$ 2.46	$ 1.55	$ 3.73	$ 4.19	$ 0.21
Shares used in computation — basic	59.6	59.6	61.6	64.3	65.4	132.6
Earnings per share — diluted	**$ 2.83**	**$ 2.38**	**$ 1.46**	**$ 3.44**	**$ 3.87**	**$ 0.21**
Shares used in computation — diluted	60.8	62.3	68.9	71.2	72.2	67.0

Appendix R. Canadian Solar Balance Sheet.

in USD million	Dec-31 2019	Dec-31 2020	Dec-31 2021	Dec-31 2022	Dec-31 2023	Jun-30 2024
ASSETS						
Current assets:						
Cash and cash equivalents	669	1,179	870	981	1,939	1,620
Restricted cash	527	458	561	978	1,000	562
Accounts receivable trade, net of allowances	437	409	651	971	905	1,019
Accounts receivable, unbilled	15	28	37	58	101	164
Amounts due from related parties	31	6	73	49	41	35
Inventories	554	696	1,192	1,524	1,180	1,205
Value added tax recoverable	109	102	126	159	163	172
Advances to suppliers, net of allowances	48	182	226	253	194	172
Derivative assets	6	23	7	18	9	6
Project assets	604	748	594	386	281	556
Prepaid expenses and other current assets	254	354	434	268	284	268
Total current assets	**3,253**	**4,186**	**4,772**	**5,645**	**6,095**	**5,780**
Restricted cash	10	3	4	10	8	10
Property, plant and equipment, net	1,046	1,158	1,402	1,827	3,088	3,080
Solar power systems, net	53	158	108	365	952	1,267
Deferred tax assets, net	154	171	237	229	263	314
Advances to suppliers, net of allowances	41	97	34	65	132	231
Prepaid land use rights	61	62	71	-	-	-
Investments in affiliates	153	78	99	116	237	228
Intangible assets, net	23	22	19	18	20	34
Project assets	483	390	433	439	577	689
Right-of-use assets	38	27	35	104	237	227
Amounts due from related parties	-	-	-	33	32	39
Other non-current assets	153	185	174	188	254	240
TOTAL ASSETS	**5,467**	**6,537**	**7,388**	**9,037**	**11,896**	**12,137**
LIABILITIES AND EQUITY						
Current liabilities:						
Short-term borrowings	933	1,202	1,271	1,444	1,805	2,036
Long-term borrowings on project assets - current	286	199	322	-	-	-
Accounts payable	586	515	503	805	814	842
Short-term notes payable	545	711	881	1,493	878	766
Amounts due to related parties	10	0	0	0	1	4
Other payables	446	509	668	853	1,360	1,179
Advances from customers	135	189	136	335	392	274
Derivative liabilities	10	11	3	25	7	1
Operating lease liabilities	19	15	12	10	20	18
Other current liabilities	122	237	243	293	588	459
Total current liabilities	**3,092**	**3,588**	**4,038**	**5,259**	**5,864**	**5,579**
Accrued warranty costs	56	38	45	-	-	-
Long-term borrowings	619	446	524	813	1,266	1,624
Derivative liabilities	-	-	-	-	-	-
Green bonds and convertible notes	-	223	225	258	389	375
Liability for uncertain tax positions	15	15	7	6	6	6
Deferred tax liabilities	56	49	48	67	83	89
Loss contingency accruals	29	26	15	-	-	
Operating lease liabilities	21	13	23	26	117	113
Financing liabilities	77	82	54	-	-	-
Other non-current liabilities	75	163	283	303	466	492
TOTAL LIABILITIES	**4,042**	**4,644**	**5,262**	**6,730**	**8,191**	**8,277**
Redeemable non-controlling interest	-	-	-	-	-	73
Equity:	-	-	-	-	-	-
Common shares – no par value	704	687	836	836	836	836
Treasury stock, at cost	(12)	-	-	-	-	-
Additional paid-in capital	17	(28)	(19)	1	293	471
Retained earnings	794	940	1,036	1,276	1,550	1,566
Accumulated other comprehensive loss	(110)	(29)	(51)	(171)	(119)	(216)
Total Canadian Solar Inc. shareholders' equity	**1,393**	**1,570**	**1,801**	**1,942**	**2,559**	2,656
Non-controlling interests	32	322	325	365	1,146	1,131
TOTAL EQUITY	**1,425**	**1,893**	**2,126**	**2,307**	**3,705**	**3,787**
TOTAL LIABILITIES, REDEEMABLE NON-CONTROLLING INTEREST AND EQUITY	**5,467**	**6,537**	**7,388**	**9,037**	**11,896**	**12,137**

Appendix S. Canadian Solar Cash Flow Statement.

in USD million Years ended December 31	2019 FY	2020 FY	2021 FY	2022 FY	2023 FY	2024 HY1
Operating activities:						
Net income	166.6	147.2	109.9	298.6	363.6	-
Adj. to reconcile net income to net cash provided by operating activities:						
Depreciation and amortization	159.7	209.1	282.8	234.6	307.0	-
Accretion of green bonds and convertible notes	-	0.4	1.5	1.3	2.1	-
Loss (gain) on disposal of property, plant and equipment	1.2	(0.3)	0.1	(4.3)	(5.3)	-
Loss on disposal of solar power systems	(1.7)	-	(10.1)	-	0.2	-
Gain on disposal of investment in affiliates	(1.9)	(13.9)	(10.4)	-	-	-
Impairment loss of property, plant and equipment	21.9	11.9	6.1	60.3	5.9	-
Impairment loss of project assets	20.2	0.4	17.2	1.7	16.2	-
Impairment loss of investments in affiliates	-	24.1	-	0.4	-	-
Loss (gain) on change in fair value of derivatives, net	22.2	(50.0)	(23.8)	44.5	27.5	-
Gain on change in fair value of other financial assets	-	-	-	-	(12.7)	-
Equity in earnings of affiliates	(28.9)	(10.8)	(7.3)	(15.4)	(14.6)	-
Allowance for credit losses	1.3	9.9	7.6	5.8	12.0	-
Non-cash operating lease expenses	14.3	19.3	14.3	13.2	18.8	-
Write-down of inventories	19.4	42.9	14.1	7.5	113.1	-
Share-based compensation	10.7	12.4	8.8	9.4	55.3	-
Unrealized gain (loss) from sales to affiliates	6.2	(0.1)	35.9	6.0	2.9	-
Derecognition of interest rate swap	-	4.4	-	-	-	-
Deferred taxes	(12.5)	(21.4)	(67.4)	16.9	(17.9)	-
Changes in operating assets and liabilities:	-	-	-	-	-	
Accounts receivable trade	51.7	65.4	(284.8)	(357.3)	59.0	-
Accounts receivable, unbilled	(15.3)	(12.1)	(8.8)	(23.4)	(43.6)	-
Amounts due from related parties	(17.3)	26.8	(68.9)	(4.5)	9.2	-
Inventories	(312.8)	(181.0)	(518.7)	(406.3)	182.8	-
Value added tax recoverable	(0.8)	2.7	(21.9)	(43.9)	(6.0)	-
Advances to suppliers	(27.1)	(138.9)	(30.4)	(52.9)	54.9	-
Project assets	28.5	(443.7)	(73.4)	(302.8)	(349.8)	-
Prepaid expenses and other current assets	33.3	(72.2)	(85.8)	151.7	(22.3)	-
Other non-current assets	(24.0)	(11.9)	20.4	(17.4)	(33.6)	-
Accounts payable	209.2	(89.2)	11.0	351.5	13.1	-
Short-term notes payable	185.8	120.4	151.0	721.0	(590.4)	-
Amounts due to related parties	(5.8)	(9.8)	(0.2)	(0.1)	0.4	-
Other payables	42.8	10.4	126.2	(0.4)	169.9	-
Advances from customers	96.1	51.7	(54.0)	209.9	59.4	-
Operating lease liabilities	(12.6)	(19.4)	(15.8)	(14.2)	(14.6)	-
Other liabilities	(10.9)	179.9	41.8	68.5	337.1	-
Accrued warranty costs	4.6	(19.1)	9.4	-	-	-
Prepaid land use rights	2.6	0.5	1.6	-	-	-
Goodwill	1.0	-	-	-	-	-
Liability for uncertain tax positions	(4.8)	(0.6)	(7.3)	(1.7)	(0.0)	-
Net settlement of derivatives	(27.0)	33.1	31.9	(31.9)	(39.1)	-
Loss contingency accruals	4.1	1.1	(10.9)	(9.6)	23.9	-
Net cash provided by (used in) operating activities	**600.1**	**(120.5)**	**(408.3)**	**916.6**	**684.6**	**(720.8)**
Investing activities:						
Investments in affiliates	(7.7)	(17.8)	(54.0)	(19.4)	(113.4)	-
Acquisition of subsidiaries, net of cash	-	-	-	-	(9.4)	-
Investment in equity securities	-	-	-	-	(0.4)	-
Return of capital from affiliates	3.0	-	2.7	7.1	2.8	-
Proceeds from disposal of investments in affiliates	1.6	33.0	14.3	-	0.3	-
Purchase of property, plant and equipment and intangible assets	(291.2)	(334.8)	(428.7)	(627.1)	(1,116.5)	(656.7)
Acquisition of right-of-use assets	-	-	-	-	(36.1)	-
Proceeds from disposal of property, plant and equipment	-	-	18.6	7.5	10.3	-
Purchase of solar power systems	-	(0.2)	(0.8)	(0.9)	(409.0)	(184.3)
Proceeds from disposal of solar power systems	0.1	-	18.4	2.3	0.1	9.3
Net cash used in investing activities	**(294.1)**	**(319.7)**	**(429.6)**	**(630.5)**	**(1,671.4)**	**(831.6)**
Financing activities:						
Proceeds from short-term borrowings	1,257.0	1,667.7	1,742.1	1,387.5	1,566.2	-
Repayment of short-term borrowings	(1,649.7)	(1,561.6)	(1,879.9)	(1,695.6)	(1,603.6)	-
Proceeds from long-term borrowings	531.0	207.6	588.1	770.4	1,016.9	-
Net proceeds from issuance of green bonds	-	-	-	-	121.0	-
Acquisition of non-controlling interests	(14.2)	-	(10.7)	-	(1.4)	-
Proceeds from non-controlling interests	11.5	261.3	10.0	15.1	5.9	-
Distribution to non - controlling interests	-	-	-	-	(4.0)	-
Repayment to non-controlling interests	-	-	(6.6)	-	-	-
Net proceeds from issuance of common shares	-	-	148.5	-	-	-
Proceeds from subsidiary's offering of its equity interests	-	-	-	-	966.9	-
Proceeds from third party financing liabilities	3.0	6.4	-	-	-	-
Proceeds from sales-leaseback arrangement	9.0	9.9	45.7	-	91.6	-
Distributions to tax equity investors	(1.1)	-	-	-	-	-
Repayments of finance lease obligation	(42.7)	(22.2)	(23.1)	(19.2)	(39.8)	-
Cash payment for transaction costs of subsidiary's offering	-	-	-	-	(39.0)	-
Net proceeds from issuance of convertible notes	-	222.8	-	-	-	-
Repayment of financing liabilities	-	-	-	(29.6)	(28.0)	-
Payments for repurchase of convertible notes	(127.5)	-	-	-	-	-
Proceeds from subscription of employee stock ownership plan	-	36.3	-	-	-	-
Proceeds from exercise of stock options	0.9	1.0	-	-	-	-
Payments for repurchase of common shares	(11.8)	(6.0)	-	-	-	-
Net cash provided by (used in) financing activities	**(34.6)**	**823.5**	**614.1**	**428.6**	**2,052.8**	**911.0**
Effect of exchange rate changes	(7.0)	51.0	18.3	(179.6)	(89.1)	(112.7)
Net increase (decrease) in cash, cash equivalents and restricted cash	264.4	434.3	(205.4)	535.2	976.9	(754.2)
Cash, cash equivalents and restricted cash at the beginning of the year	941.0	1,205.4	1,639.7	1,434.3	1,969.5	5,840.6
Cash, cash equivalents and restricted cash at the end of the year	1,205.4	1,639.7	1,434.3	1,969.5	2,946.4	5,086.4

Appendix T. Peer Analysis Canadian Solar.

		2021	2022	2023
Revenue Growth	25th Percentile	21.33%	12.46%	-4.90%
	Median	**34.08%**	**26.92%**	**4.57%**
	75th Percentile	50.36%	56.71%	26.79%
	Canadian Solar	51.80%	41.53%	1.94%
Gross Profit Margin	25th Percentile	14.85%	12.31%	9.45%
	Median	**23.24%**	**20.90%**	**22.17%**
	75th Percentile	35.06%	36.62%	32.67%
	Canadian Solar	17.23%	16.91%	16.81%
EBITDA Margin	25th Percentile	1.77%	1.98%	-1.21%
	Median	**16.03%**	**11.20%**	**12.54%**
	75th Percentile	24.49%	24.07%	25.38%
	Canadian Solar	8.97%	7.91%	9.99%
EBIT Margin	25th Percentile	-2.58%	-8.51%	-4.72%
	Median	**10.41%**	**8.83%**	**9.13%**
	75th Percentile	19.87%	16.98%	16.49%
	Canadian Solar	3.61%	4.77%	5.95%
Return on Assets (ROA)	25th Percentile	-3.54%	-2.16%	-5.12%
	Median	**2.87%**	**3.45%**	**3.20%**
	75th Percentile	7.56%	7.96%	6.16%
	Canadian Solar	1.49%	3.30%	3.06%
Return on Equity (ROE)	25th Percentile	-4.32%	-0.53%	-6.18%
	Median	**9.46%**	**10.99%**	**11.04%**
	75th Percentile	21.98%	20.82%	16.02%
	Canadian Solar	6.10%	15.38%	14.21%
Return On Invested Capital (ROIC)	25th Percentile	-1.34%	-0.92%	-8.67%
	Median	**7.12%**	**7.15%**	**7.32%**
	75th Percentile	12.50%	15.99%	16.07%
	Canadian Solar	2.64%	4.93%	4.24%
EBITDA Net Interest Coverage Ratio	25th Percentile	0.47	1.19	-0.34
	Median	**9.85**	**7.42**	**7.68**
	75th Percentile	33.61	28.36	15.07
	Canadian Solar	8.14	7.95	6.66
Current Ratio	25th Percentile	1.25	1.36	1.24
	Median	**1.67**	**1.71**	**1.69**
	75th Percentile	2.75	2.23	2.21
	Canadian Solar	1.18	1.07	1.04
Cash Ratio	25th Percentile	0.24	0.24	0.23
	Median	**0.51**	**0.37**	**0.45**
	75th Percentile	1.16	0.88	0.76
	Canadian Solar	0.22	0.19	0.33

Appendix U. Canadian Solar OpEx Analysis.

OpEx		2019	2020	2021	2022	2023	CAGR
Selling & Distribution Expenses	mUSD	180	224	399	559	370	19.7%
% Growth	%		*24.4%*	*77.8%*	*40.2%*	*-33.9%*	-
% of Revenues	%	*5.6%*	*6.5%*	*7.6%*	*7.5%*	*4.9%*	-
G&A Expenses	mUSD	243	226	309	342	440	16.1%
% Growth	%		*-7.1%*	*36.9%*	*10.7%*	*28.7%*	-
% of Revenues	%	*7.6%*	*6.5%*	*5.9%*	*4.6%*	*5.8%*	-
R&D Expenses	mUSD	47	45	58	70	101	21.0%
% Growth	%		*-4.0%*	*29.3%*	*19.5%*	*44.4%*	-
% of Revenues	%	*1.5%*	*1.3%*	*1.1%*	*0.9%*	*1.3%*	-
Other Operating Income	mUSD	(11)	(26)	(47)	(64)	(84)	68.2%
% Growth	%		*142.2%*	*84.4%*	*35.6%*	*32.2%*	-
% of Revenues	%	*-0.3%*	*-0.7%*	*-0.9%*	*-0.9%*	*-1.1%*	-
Total OpEx	mUSD	460	469	719	907	827	15.8%
% Growth	%		*2.1%*	*53.1%*	*26.2%*	*-8.9%*	-
% of Revenues	%	*14.4%*	*13.5%*	*13.6%*	*12.1%*	*10.9%*	-

Appendix V. Canadian Solar Historical Financials.

Metric		2019	2020	2021	2022	2023	Average	CAGR
Net revenue	mUSD	**3,201**	**3,476**	**5,277**	**7,469**	**7,614**	-	**24.2%**
CSI Solar	mUSD	**2,482**	**2,750**	**4,153**	**6,647**	**7,116**	-	***30.1%***
Solar Modules	mUSD	2,012	2,349	3,328	5,534	5,941	-	*31.1%*
Solar System Kits	mUSD	116	158	302	538	679	-	*55.4%*
Battery Energy Storage Solutions	mUSD	-	8	223	441	245	-	*214.3%*
EPC and others	mUSD	353	236	300	134	250	-	*-8.3%*
Recurrent Energy	mUSD	**719**	**726**	**1,124**	**822**	**498**	-	***-8.8%***
Solar Power and Battery Energy Storage Asset Sales	mUSD	652	655	1,064	762	399	-	*-11.5%*
Power Services (O&M) and Asset Management	mUSD	20	26	35	34	52	-	*27.6%*
Electricity Revenue from Operating Portfolio and others	mUSD	47	45	25	26	46	-	*-0.4%*
Net Revenue Growth	%	**-**	**8.6%**	**51.8%**	**41.5%**	**1.9%**	**31.8%**	-
CSI Solar	%	**-**	**10.8%**	**51.0%**	***60.1%***	***7.1%***	***39.4%***	-
Solar modules	%	-	*16.7%*	*41.7%*	*66.3%*	*7.4%*	*38.4%*	-
Solar system kits	%	-	*35.4%*	*91.6%*	*78.1%*	*26.2%*	*65.3%*	-
Battery energy storage solutions	%	-		*2718.8%*	*97.9%*	*-44.4%*	*924.1%*	-
EPC and others	%	-	*-33.2%*	*27.1%*	*-55.4%*	*86.9%*	*19.5%*	-
Recurrent Energy	%	**-**	***1.0%***	***54.8%***	***-26.9%***	***-39.4%***	***-3.8%***	-
Solar power and battery energy storage asset sales	%	-	*0.4%*	*62.5%*	*-28.4%*	*-47.6%*	*-4.5%*	-
Power services (O&M) and asset management	%	-	*33.6%*	*33.9%*	*-4.4%*	*55.1%*	*28.2%*	-
Electricity revenue from operating portfolio and others	%	-	*-4.2%*	*-45.3%*	*6.1%*	*77.1%*	*12.6%*	-
Gross Profit	mUSD	**718**	**690**	**909**	**1,263**	**1,280**	-	15.5%
CSI Solar	mUSD	614	609	682	1,151	1,109	-	16.0%
Recurrent Energy	mUSD	114	149	194	161	205	-	15.8%
Gross Margin	%	**22.4%**	**19.8%**	**17.2%**	**16.9%**	**16.8%**	17.0%	-
CSI Solar	%	24.7%	22.1%	16.4%	17.3%	15.6%	16.4%	-
Recurrent Energy	%	15.8%	20.5%	17.3%	19.6%	41.1%	26.0%	-
OpEx	mUSD	**460**	**469**	**719**	**907**	**827**	-	15.8%
CSI Solar	mUSD	346	356	608	807	653	-	17.2%
Recurrent Energy	mUSD	95	96	97	81	108	-	3.3%
OpEx in % Revenues	%	**14.4%**	**13.5%**	**13.6%**	**12.1%**	**10.9%**	12.2%	-
CSI Solar	%	13.9%	12.9%	14.6%	12.1%	9.2%	12.0%	-
Recurrent Energy	%	13.2%	13.2%	8.6%	9.9%	21.7%	13.4%	-
EBIT	mUSD	**259**	**220**	**190**	**356**	**453**	-	15.0%
CSI Solar	mUSD	268	253	74	344	456	-	14.3%
Recurrent Energy	mUSD	19	53	97	80	97	-	50.6%
EBIT Margin	%	**8.1%**	**6.9%**	**5.9%**	**11.1%**	**14.2%**	10.4%	-
CSI Solar	%	10.8%	9.2%	1.8%	5.2%	6.4%	4.5%	-
Recurrent Energy	%	2.6%	7.4%	8.6%	9.8%	19.4%	12.6%	-
Depreciation & Amortization	mUSD	**160**	**209**	**283**	**235**	**307**	-	17.7%
% of Revenues	%	5.0%	6.0%	5.4%	3.1%	4.0%	**4.7%**	
EBITDA	mUSD	**419**	**430**	**473**	**591**	**760**	-	16.1%
% EBITDA Margin	%	13.1%	12.4%	9.0%	7.9%	10.0%	10.5%	-
Tax Rate	%	**23.4%**	**-1.5%**	**25.9%**	**20.6%**	**14.6%**	**21.1%**	-

Appendix W. Canadian Solar Profitability & Leverage Ratios.

Profitability & Leverage Ratios		2019	2020	2021	2022	2023
Operating Margin	%	8.1%	6.3%	3.6%	4.8%	6.0%
Net Profit Margin	%	5.2%	4.2%	2.1%	4.0%	4.8%
ROA (Net Income / Total Assets)	%	**3.0%**	**2.3%**	**1.5%**	**3.3%**	**3.1%**
Return on Equity (Net Income / Shareholder's Equity)	%	**12.0%**	**9.4%**	**6.1%**	**15.4%**	**14.2%**
Return on Invested Capital (NOPAT / Invested Capital)	%	**5.0%**	**4.3%**	**2.6%**	**4.9%**	**4.2%**
NOPAT	*mUSD*	198	224	141	283	387
Invested Capital (Total Debt + Total Equity + Non-operating Cash)	*mUSD*	3,985	5,183	5,336	5,737	9,126
Current Ratio	-	**1.05**	**1.17**	**1.18**	**1.07**	**1.04**
Quick ratio	-	0.36	0.45	0.39	0.38	0.50
D/E ratio (Total Debt / Shareholders' Equity)	-	**1.40**	**1.39**	**1.36**	**1.34**	**1.43**
Operating Cash Flow	***mUSD***	**600**	**(121)**	**(408)**	**917**	**685**
Free Cash Flow	***mUSD***	**306**	**(440)**	**(838)**	**286**	**(987)**

Appendix X. Canadian Solar CapEx Analysis.

		2019	2020	2021	2022	2023
CapEx	***mUSD***	**-299**	**-353**	**-484**	**-647**	**-1,685**
Investments in Affiliates	*mUSD*	-8	-18	-54	-19	-113
Acquisition of Subsidiaries, net of cash	*mUSD*	0	0	0	0	-9
Investment in Equity Securities	*mUSD*	0	0	0	0	0
Purchase of PPE and Intangible Assets	*mUSD*	-291	-335	-429	-627	-1,116
Acquisition of Right-of-Use Assets	*mUSD*	0	0	0	0	-36
Purchase of Solar Power Systems	*mUSD*	0	0	-1	-1	-409
% of Revenue	*%*	***9.3%***	***10.1%***	***9.2%***	***8.7%***	***22.1%***

3-Year ⌀	CAGR[1]
13.3%	29.4%

Appendix Y. Canadian Solar Debt Statistics.

Debt Statistics	2019	2020	2021	2022	2023
Total Debt / EBITDA	4.5x	5.2x	5.2x	4.0x	3.9x
Leverage Cover (Net Debt / EBITDA)	2.9x	2.4x	3.3x	2.5x	2.1x
Interest Cover (EBITDA / Interest Expense)	**5.1x**	**6.0x**	**8.1x**	**8.0x**	**6.7x**
Interest Coverage (EBIT / Interest Expense)	3.2x	3.1x	3.3x	4.8x	4.0x

[1] The CAGR considers the period between 2019 and 2022.

Appendix Z. Overview of Modeling Assumptions for Canadian Solar.

		HY2 2024	2025	2026	2027	2028	2029
Net Revenue (Growth)	%	Guidance	5.7%	4.1%	4.4%	5.7%	10.3%
CSI Solar (Growth)	%	Guidance	5.5%	3.8%	4.1%	5.5%	10.2%
Solar Modules (Growth)	%	Guidance	3.9%	2.1%	2.2%	3.5%	8.3%
Solar System Kits (Growth)	%	Guidance	13.9%	12.1%	12.2%	13.5%	18.3%
Battery Energy Storage Solutions (Growth)	%	Guidance	12.0%	12.2%	12.6%	13.0%	13.6%
EPC and others (Growth)	%	Guidance	13.0%	12.1%	12.4%	13.2%	15.9%
Recurrent Energy (Growth)	%	Guidance	8.3%	7.3%	7.4%	8.3%	11.3%
Solar Power and Battery Energy Storage Asset Sales (Growth)	%	Guidance	7.0%	6.0%	6.1%	6.7%	9.2%
Power Services (O&M) and Asset Management (Growth)	%	Guidance	13.9%	12.1%	12.2%	13.5%	18.3%
Electricity Revenue from Operating Portfolio and others (Growth)	%	Guidance	13.9%	12.1%	12.2%	13.5%	18.3%
Gross Margin CSI Solar	%	16.0%	16.5%	17.0%	17.5%	18.3%	18.3%
Gross Margin Recurrent Energy	%	22.9%	23.5%	24.0%	24.5%	25.0%	25.0%
Operating Expenses of Revenues	%	10.9%	10.5%	10.5%	10.3%	10.0%	10.0%
Tax Rate	%	21.1%	21.1%	21.1%	21.1%	21.1%	21.1%
D&A of Revenues	%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
CapEx of Revenues	%	Guidance	9.5%	9.0%	8.0%	7.5%	7.5%
Change in NWC of Revenues	%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%

Appendix AA. Canadian Solar Revenue Split per Segment.

	2024	2025	2026	2027	2028	2029
Net Revenue	6,500	6,868	7,147	7,459	7,885	8,697
CSI Solar	**6,075**	**6,407**	**6,653**	**6,929**	**7,311**	**8,057**
Solar Modules	5,072	5,271	5,379	5,498	5,689	6,162
Solar System Kits	580	661	740	831	943	1,115
Battery Energy Storage Solutions	209	234	263	296	335	380
EPC and others	214	241	270	304	344	399
Recurrent Energy	**425**	**460**	**494**	**530**	**574**	**639**
Solar Power and Battery Energy Storage Asset Sales	341	364	386	410	438	478
Power Services (O&M) and Asset Management	45	51	57	64	73	86
Electricity Revenue from Operating Portfolio and others	39	45	50	56	64	76
% Net Revenue Growth	*-14.6%*	*5.7%*	*4.1%*	*4.4%*	*5.7%*	*10.3%*

Appendix BB. Analysis of CapEx in the Solar Industry.

CapEx in % of Revenues		2020	2021	2022	2023
First Solar	%	15.37%	18.48%	34.50%	41.79%
Fluence	%	0.32%	0.63%	0.66%	0.13%
Array Technologies	%	0.15%	0.39%	0.65%	1.08%
Nextracker	%	0.21%	0.41%	0.17%	0.25%
SolarEdge Technologies	%	8.69%	7.60%	5.44%	5.73%
Shoals Technologies	%	1.84%	1.94%	0.96%	2.16%
Maxeon Solar Technologies	%	3.28%	19.74%	5.97%	6.01%
Enphase	%	2.65%	3.78%	1.99%	4.82%
Tongwei	%	12.41%	21.33%	10.69%	26.20%
Jinko Solar	%	11.89%	22.60%	18.03%	17.15%
Trina Solar	%	16.09%	14.60%	9.53%	16.72%
JA Solar Technology	%	12.37%	13.13%	10.64%	21.92%
Arctech Solar Holding	%	2.72%	18.77%	8.49%	4.46%
Shanghai Aiko Solar Energy	%	26.94%	5.79%	11.34%	23.19%
Risen Energy	%	5.56%	21.49%	7.17%	13.01%
Sineng Electric	%	5.21%	12.67%	4.57%	5.84%
Hainan Drinda New Energy Technology	%	13.94%	5.38%	4.53%	14.91%
SOLAX POWER NETWORK TECH	%	10.07%	7.32%	5.39%	8.03%
Jolywood (Suzhou) Sunwatt	%	5.86%	7.44%	8.33%	14.70%
Changzhou Fusion New Material	%	2.75%	1.72%	2.44%	0.98%
State Power Rixin Technology	%	0.72%	1.38%	1.64%	7.76%
Clenergy Technology	%	1.47%	1.94%	4.00%	12.57%
Jiangsu TongLin Electric	%	3.40%	2.06%	14.27%	15.95%
Changzhou Almaden	%	4.47%	7.93%	7.64%	13.21%
Lingda Group	%	18.88%	14.70%	7.17%	22.94%
gremz	%	0.31%	1.23%	2.07%	0.59%
Xinyi Solar Holdings	%	26.70%	30.74%	32.35%	37.14%
SMA Solar Technology AG	%	3.78%	4.83%	5.80%	4.43%

25% percentile	%	2.45%	1.94%	2.35%	4.45%
Median	%	**4.84%**	**7.38%**	**5.89%**	**10.30%**
Average	%	7.79%	9.64%	8.09%	12.27%
75% percentile	%	12.38%	15.64%	9.81%	16.83%

Appendix CC. Canadian Solar Working Capital Analysis.

Working Capital		2019	2020	2021	2022	2023
Operational current assets	*mUSD*	**2,116**	**2,580**	**3,419**	**3,799**	**3,285**
Operating cash	*mUSD*	64	70	106	149	152
Accounts receivable trade, net of allowances	*mUSD*	437	409	651	971	905
Accounts receivable, unbilled	*mUSD*	15	28	37	58	101
Amounts due from related parties	*mUSD*	31	6	73	49	41
Inventories	*mUSD*	554	696	1,192	1,524	1,180
Value added tax recoverable	*mUSD*	109	102	126	159	163
Advances to suppliers, net of allowances	*mUSD*	48	182	226	253	194
Project assets	*mUSD*	604	748	594	386	281
Other operating current assets and prepaid expenses	*mUSD*	254	339	414	250	268
Operational current liabilities	*mUSD*	**1,317**	**1,466**	**1,561**	**2,296**	**3,174**
Accounts payable	*mUSD*	586	515	503	805	814
Amounts due to related parties	*mUSD*	10	0	0	0	1
Other payables	*mUSD*	446	509	668	853	1,360
Advances from customers	*mUSD*	135	189	136	335	392
Operating lease liabilities	*mUSD*	19	15	12	10	20
Other current liabilities	*mUSD*	122	237	243	293	588
NWC	*mUSD*	**799**	**1,114**	**1,858**	**1,502**	**110**
Change in NWC	*mUSD*	**-**	**315**	**744**	**(356)**	**(1,392)**
% of Revenues	*%*	-	*9.07%*	*14.10%*	*-4.76%*	*-18.28%*

Average	Median
0.0%	2.2%

Appendix DD. Canadian Solar WACC Calculation.

Equity (MV)	988	**Cost of Equity**	**11.38%**	**Cost of Debt**	**4.61%**
Debt	4,241	Risk-free rate	4.31%	Impl. Rating	A
E / (E + D)	18.90%	Adjusted Beta	1.17	Debt Beta	0.05
D / (E + D)	81.10%	Market Risk Premium	6.05%	Tax Rate	21.11%

WACC	**5.10%**

Appendix EE. Implied Share Price of Canadian Solar.

Terminal Value		
Terminal Growth	%	2.00%
Terminal Value 2034	mUSD	7,254
Terminal Value 30.06.2024	mUSD	**4,302**

Enterprise Value	mUSD	4,987

EV to Equity Value Bridge		
Net Debt	mUSD	2,773
Total Debt	mUSD	4,241
Excess Cash	mUSD	1,468
Non-controlling Interests	mUSD	1,131
Equity Value	mUSD	**1,083**

Share Price		
Number of shares (basic)	#	66,413,750
Number of shares (diluted)	#	66,984,783
Share price (diluted)	USD	**16.16**
Closing price on June 28, 2024	USD	14.75

Appendix FF. Canadian Solar Sensitivity Analysis Share Price.

		WACC				
		4.90%	5.00%	5.10%	5.20%	5.30%
Terminal Growth Rate	1.80%	17.12	14.37	11.78	9.35	7.06
	1.90%	19.56	16.64	13.91	11.34	8.92
	2.00%	22.17	19.07	16.16	13.45	10.89
	2.10%	24.96	21.66	18.57	15.69	12.99
	2.20%	27.96	24.43	21.15	18.08	15.22

Appendix GG. Cost Synergy Analysis.

211 Deals	Cost synergies / (COGS + SG&A)
25th Percentile	0.77%
Median	1.42%
Average	2.82%
75th Percentile	2.67%

Appendix HH. Revenue Synergy Analysis.

86 Deals	Revenue Synergies / Revenue
25th Percentile	0.42%
Median	1.34%
Average	10.34%
75th Percentile	3.15%

Appendix II. Sources and Uses of Funds.

Uses of Funds:		
Acquisition Price	*mUSD*	1,434
Target Net Debt Repayment	*mUSD*	2,773
Financing Fees	*mUSD*	25
Transaction Fees	*mUSD*	14
Restructuring Fees (HY2 '24)	*mUSD*	99
Total Uses	*mUSD*	**4,346**

Sources of Funds:		
Existing Cash	*mUSD*	1,601
New Debt issued	*mUSD*	2,745
Total Sources	*mUSD*	**4,346**

Appendix JJ. Merged Entity Pro Forma Balance Sheet.

		Enphase 30.06.2024	Candian Solar 30.06.2024	Transaction Adjustments (+)	Transaction Adjustments (-)	Pro Forma 30.06.2024
ASSETS						
Excess Cash & Cash Equivalents	*mUSD*	1,601	1,468	2,745	(5,813)	-
Other Current Assets	*mUSD*	641	4,312	-	-	4,953
Current assets	*mUSD*	**2,242**	**5,780**	**2,745**	**(5,813)**	**4,953**
PPE	*mUSD*	152	3,080	-	-	3,232
Goodwill	*mUSD*	213	0	128	-	341
Other Non-Current Assets	*mUSD*	560	3,277	-	-	3,837
Total Assets	*mUSD*	**3,167**	**12,137**	**2,873**	**(5,813)**	**12,363**
LIABILITIES, REDEEMABLE NON-CONTROLLING INTEREST AND EQUITY						
Short-Term Debt	*mUSD*	99	2,036	-	(2,036)	99
Other Short-Term Liabilities	*mUSD*	431	3,543	-	-	3,974
Current Liabilities	*mUSD*	**530**	**5,579**	**-**	**(2,036)**	**4,073**
Long-Term Debt	*mUSD*	1,199	2,205	2,745	(2,205)	3,944
Other Long-term Liabilites	*mUSD*	553	493	-		1,046
Total Liabilities	*mUSD*	**2,282**	**8,277**	**2,745**	**(4,241)**	**9,063**
Redeemable Non-Controlling Interest	*mUSD*	0	73	-	-	73
Common Shares	*mUSD*	0	836	-	(836)	0
Additional Paid-In Capital	*mUSD*	993	471	-	(471)	993
Retained Earnings	*mUSD*	(101)	1,566	-	(138)	1,327
Accumulated Other Comprehensive Loss	*mUSD*	(8)	(216)	-	-	(224)
Non-Controlling Interest	*mUSD*	0	1,131	-	-	1,131
Total Equity	*mUSD*	**885**	**3,787**	**-**	**(1,444)**	**3,227**
Total Liabilities, Non-Controlling Interest & Equity	*mUSD*	**3,167**	**12,137**	**2,745**	**(5,685)**	**12,363**

Appendix KK. Merged Entity WACC Calculation.

Equity (MV)	12,586	**Cost of Equity**	**11.04%**	**Cost of Debt**	**4.55%**
Debt	4,043	Risk-free rate	4.31%	Impl. Rating	> A
E / (E + D)	75.69%	Adjusted Beta	1.43	Debt Beta	0.05
D / (E + D)	24.31%	Market Risk Premium	4.71%	Tax Rate	18.27%

WACC	**9.26%**

Appendix LL. Implied Share Price of the Combined Entity.

Terminal Value		
Terminal Growth	%	2.00%
Terminal Value 2034	mUSD	28,954
Terminal Value 30.06.2024	mUSD	11,429

Enterprise Value	***mUSD***	**18,283**

EV to Equity Value Bridge		
Net Debt	mUSD	4,043
Total Debt	mUSD	4,043
Excess Cash (& Marketable Securities)	mUSD	0
Non-controlling Interests	mUSD	1,131
Equity Value	mUSD	**13,109**

Share Price		
Number of shares (diluted)	#	135,768,000
Share price (diluted)	USD	**96.55**

Appendix MM. Sensitivity Analysis of the Merged Entity's Share Price.

		WACC				
		9.06%	9.16%	9.26%	9.36%	9.46%
Terminal Growth Rate	1.80%	98.10	95.82	93.60	91.44	89.34
	1.90%	99.66	97.33	95.06	92.85	90.70
	2.00%	101.26	98.88	96.55	94.30	92.10
	2.10%	102.91	100.47	98.09	95.79	93.54
	2.20%	104.61	102.11	99.68	97.32	95.02

Appendix NN. Terminal Value of Synergies.

Terminal Value		
Terminal Growth	%	2.00%
Terminal Value 2034	mUSD	4,570
Terminal Value 30.06.2024	mUSD	1,804

PV of Synergies	***mUSD***	**3,195**

Premium Paid (Over Four Week Price)	mUSD	285
Value created by the Transaction	mUSD	2,911
Payback Period of the Premium	Years	2.43

Appendix OO. NPV Calculation of the Transaction.

		HY2 2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Cashflows	*mUSD*	-95	-25	116	247	368	411	451	486	515	535	546
Canadian Solar's NOPLAT	*mUSD*	-107	-127	-67	50	154	170	185	198	209	216	221
Post-Tax Synergies	*mUSD*	12	102	183	197	214	241	266	288	306	319	325
Discounted Return	*mUSD*	-91	-22	93	181	247	252	254	250	243	231	215

Invested Capital (exl. Fees that are in CFs)	*mUSD*	4,232

Terminal Value		
Terminal Growth	*%*	2.00%
Terminal Value 2034	*mUSD*	7,671
Terminal Value 30.06.2024	*mUSD*	3,028

Net Present Value	***mUSD***	**649**

Appendix PP. Sensitivity Analysis of the Transaction's NPV.

		Revenue Synergies Realized				
		50%	75%	100%	125%	150%
Cost Synergies Realized	50%	-949	-584	-218	147	512
	75%	-515	-150	215	580	946
	100%	-82	283	649	1,014	1,379
	125%	352	717	1,082	1,448	1,813
	150%	785	1,151	1,516	1,881	2,246

Appendix QQ. Forma Adjusted Pretax Income and Net Income.

		PF HY2 '24	PF 2025	PF 2026
Pro Forma Pretax Income (Unadjusted)	*mUSD*	**184**	**770**	**981**
Adjustments:				
(-) Interest Expense of New Debt	*mUSD*	(125)	(125)	(125)
(+) Cancellation of Old Debt Interest Expense	*mUSD*	196	196	196
(-) Deal Fees (Restructuring and Transaction Fees)	*mUSD*	(113)	(198)	-
(-) Financing Fees Amortization	*mUSD*	(5)	(5)	(5)
(-) Foregone Interest on Cash	*mUSD*	(34)	(70)	(74)
(+) Synergies	*mUSD*	15	124	224
Pro Forma Pretax Income (Adjusted)	*mUSD*	**117**	**692**	**1,197**
(-) Tax Expense	*mUSD*	(21)	(126)	(219)
Pro Forma Net Income	*mUSD*	**96**	**566**	**979**

Appendix RR. Accretion/Dilution Analysis.

		PF HY2 '24	PF 2025	PF 2026
Pro Forma Net Income	*mUSD*	**96**	**566**	**979**
Pro Forma Shares Outstanding	*#*	135.8	135.8	135.8

Pro Forma EPS	*USD*	**0.70**	**4.17**	**7.21**
Acquirer Standalone EPS	*USD*	1.08	3.23	4.19
Accretion / Dilution per Share	*USD*	(0.38)	0.94	3.02
% Accretion / Dilution	*%*	**-35%**	**29%**	**72%**

Appendix SS. Mergers & Acquisitions Market Overview.

M&A transactions enable businesses to access new technologies, expand offerings, streamline operations, and achieve economies of scale, while also addressing disruptions, adapting to regulations, or transitioning to sustainable models. However, the M&A landscape is highly sensitive to economic conditions, interest rates, and investor sentiment, causing fluctuations in deal volume and value. Understanding the latest M&A wave provides insights into how companies navigate these factors to achieve strategic goals.

The global M&A market faced notable fluctuations in recent years, reaching an all-time peak in 2021, before encountering significant challenges in the following period. By 2023, deal activity had dropped sharply, marking it as the second weakest year in over a decade. The total value of deals completed in 2023 amounted to approximately $3 trillion, reflecting a decline of 15.8% compared to 2022 (Clarke et al. 2024; Harding et al. 2024; Henry et al. 2024). This contraction has been largely attributed to persistently high interest rates, which raised financing costs and diminished the appetite for M&A. However, analysts anticipate that a potential reversal of high interest rates could renew interest in transactions, creating more favorable conditions for M&A activity in the future (Henry et al. 2024). Despite the decline in deal value, the rate of decrease has shown signs of stabilizing, suggesting that the market may be approaching a plateau rather than a continuous downturn. Moreover, the number of deals completed remains relatively high, indicating sustained interest in M&A even in a challenging environment.

The market appears to be at the start of a new merger wave, defined as a period of elevated M&A activity and a generally favorable, potentially overvalued market (Renneboog and Vansteenkiste 2019). Tobin's Q, the ratio of total market value to the aggregate replacement cost of assets, exceeds 1 for the U.S. stock market, standing at 1.76 (FRED 2024a), indicating potential overvaluation and supporting the view of an impending merger wave. However, the relevance of merger wave theory remains debated: some argue on-wave deals create more value than off-wave deals (Xu 2017), while others highlight increased uncertainty and weaker governance during such periods (Duchin and Schmidt 2013). Additionally, Xu (2017) suggests cross-border deals benefit from being executed later in a wave, whereas domestic deals see greater advantages for early movers (Carow, Heron, and Saxton 2004). Overall, M&A activity is expected to grow significantly in 2024, driven by the strategic importance of transactions, improving macroeconomic conditions, and ample investor cash reserves (Henry et al. 2024).

The renewable energy sector remains a focal point for M&A activity as companies and investors view it as a critical pathway to growth and market expansion. With increasing global demand for clean energy, competition for renewable energy deals has intensified, particularly as traditional energy players and private equity firms seek to diversify into sustainable energy assets (Stegelmann 2024). While the overall number of renewable energy deals has slightly decreased, solar energy continues to dominate, accounting for the majority of transactions within the sector. Geographically, Europe holds a dominant position in renewable energy M&A, responsible for 53% of global deals, driven by strong regulatory support and ambitious carbon reduction targets. North America follows with 27% of deals, with investor optimism in this region increasing in the second half of the year, partially due to regulatory incentives such as the Inflation Reduction Act (IRA) (Atlamazoglou et al. 2024; Stegelmann 2024). Enacted in 2022, the IRA offers substantial tax credits and financial incentives for renewable energy investments, boosting the economic viability of projects in the U.S. and fostering additional M&A activity. In the Asia-Pacific region, which accounts for 17% of renewable energy deals, countries are also ramping up their transition to clean energy, though at a different pace compared to Europe and North America. Increasing governmental support and evolving climate policies across the region, mainly driven by China, are creating new opportunities for M&A as energy firms seek to expand their renewable portfolios (Stegelmann 2024; IRENA 2024).

Overall, investor interest in renewable energy M&A is expected to remain strong as companies pursue strategic acquisitions to secure clean energy assets, respond to regulatory shifts, and align with long-term sustainability goals. The high demand for renewable assets, coupled with regulatory support in key regions, continues to make the sector one of the most active areas for M&A despite recent economic challenges. This combination of strategic importance, investor interest, and policy support suggests that renewable energy will remain a bright spot in the M&A landscape, attracting capital and attention from a range of market participants.

Appendix TT. The Solar Energy Market.

The solar energy market encompasses a range of technologies and components essential for capturing, converting, and storing solar power. Primarily, it consists of solar photovoltaic (PV) panels, which use semiconductor materials to convert sunlight into direct current (DC) electricity. Inverters are critical in this process, as they convert DC power generated by PV panels into alternating current (AC). DC electricity flows in a single, constant direction, making it well-suited for storage in batteries or use in solar panels. AC, in contrast, periodically reverses its direction, allowing for efficient transmission over long distances and compatibility with conventional household appliances and power grids (U.S. Department of Energy 2024). Additionally, solar batteries play a growing role by storing excess energy produced during peak sunlight hours. The market also includes mounting and racking systems for securely placing PV panels on various surfaces and monitoring and control systems that optimize performance and ensure system health. Recently, advancements in smart grid technology and energy management software have further integrated solar solutions into broader energy systems, enhancing efficiency and enabling flexible, decentralized power generation. Given that many of these technologies rely on the capacity and extent of PV installations, market growth is typically measured in terms of PV panel installations and capacity additions (SEIA 2024; Statista 2024). Together, these components form a complex ecosystem that drives the adoption of solar energy globally.

The global renewable energy sector is experiencing significant growth, with solar energy representing 78% of the newly added renewable capacity in 2023. This marks an increase of 12 percentage points compared to 2022 (SolarPower Europe 2024). The surge in installed solar PV systems can be attributed to enhanced global manufacturing capacities alongside a stimulated demand as the industry transitions into a post-crisis phase following the COVID-19 pandemic and related global supply chain disruptions (SolarPower Europe 2024). Additionally, both the levelized cost of electricity (LCOE) for utility-scale solar PV plants and manufacturing costs have seen substantial reductions, highlighting a persistent downward trend in module pricing (IRENA 2024). In 2023, module prices experienced a decline ranging from 16% to 55% depending on the type. Industry experts anticipate that the competitiveness of solar PV technology will continue to strengthen in the coming years, driven by advancements in equipment efficiency, manufacturing optimization, improved material utilization, and design enhancements (IRENA 2024). The sector's robust market prospects are further underscored by a projected Compound Annual Growth Rate (CAGR) of approximately 14%, which reflects analysts' confidence in the ongoing development of solar energy capacities (SolarPower Europe 2024).

It is essential to note that the remarkable growth of the global solar industry has been significantly influenced by China, which stands as the largest supplier and market for solar products. In 2023, China reported an unprecedented year-on-year growth rate of 167%, surpassing growth rates in Western countries such as Germany (103%) and the United States (48%) (SolarPower Europe 2024). The strong emphasis on the Asian market, particularly China's leadership, necessitates that investors and competitors consider these market forecasts when strategizing for the coming decade.

In the U.S., the solar market is further strengthened by the IRA, which has provided significant incentives for renewable energy projects. These incentives have helped drive growth in the solar industry, attracting investments and reducing costs for solar power deployment (SolarPower Europe 2024). However, with the re-election of Trump, there is some uncertainty regarding these policies' future. While Trump has expressed interest in shifting the focus back to fossil fuels and reducing reliance on renewable energy incentives, experts suggest that a full repeal of the IRA is unlikely, given the broad bipartisan support for clean energy initiatives. Instead, it is anticipated that certain provisions may be targeted for modification or reduction to accommodate broader fiscal policy goals (Rodgers 2024; DiGangi 2024).

Appendix UU. Enphase Energy Company Description.

Enphase Energy Inc. is a leading global energy technology company specializing in the development and production of solar microinverter systems, energy management technology, and storage solutions. Founded in 2006 and headquartered in Fremont, California, Enphase revolutionized the solar industry by introducing the world's first microinverter system, which converts DC from solar panels into an AC directly at the panel level (Enphase Energy 2024a). This innovation not only improved the efficiency and reliability of solar energy systems but also enhanced the safety and scalability of residential and commercial solar installations.

Enphase's primary product line includes microinverters, which are designed to work with individual solar panels to optimize their output. Unlike traditional string inverters, which connect to multiple panels, Enphase microinverters allow each panel to operate independently. This design minimizes performance losses caused by shading or debris on individual panels, maximizing energy production across the entire system. Additionally, Enphase offers the Enphase Energy System, a seamlessly connected solution that includes microinverters, energy storage (the

Enphase IQ Battery), and energy management technology through the Enphase App. This system enables customers to generate, store, monitor, and control their energy usage in real time, promoting energy independence and resilience (Enphase Energy 2024b).

Enphase has experienced significant growth since its inception, driven largely by technological innovation and strategic expansion. In 2011, the company went public on the NASDAQ under the ticker ENPH, which provided the capital needed to expand operations and invest in Research and Development (R&D). The company's focus on continuous improvement led to the development of the IQ series of microinverters, which feature enhanced energy conversion efficiency and are compatible with the latest high-wattage solar panels. Enphase also expanded into the energy storage market, launching its IQ Battery series to meet the growing demand for residential storage solutions (Enphase Energy 2024a; 2024c).

Enphase operates globally, with a strong presence in North America, Europe, Australia, and certain Asian markets. The company has strategically positioned itself in regions where solar adoption is high and government incentives are favorable. Enphase's microinverter technology is particularly popular in the U.S. residential solar market, where the company holds a significant market share due to its product reliability and network of installation partners (Enphase Energy 2024a). In recent years, Enphase has also expanded its operations in Europe, focusing on countries like Germany and the Netherlands, where demand for residential solar and energy storage solutions is rising. In addition, Enphase has entered the Indian market, aiming to leverage the country's rapid adoption of renewable energy technologies (Markets Insider 2024).

Appendix VV. Methodology.

This project employs rigorous financial and strategic analysis to evaluate the potential value creation of the proposed merger. By leveraging market data, company financials, and industry insights, it is assessed whether the merger will benefit shareholders and create value for the firm. Key steps include data collection, financial analysis, DCF valuations, synergy assessment, and an Accretion/Dilution (A/D) evaluation. Financial data is sourced from annual reports, quarterly filings, and investor presentations, offering insights into revenue trends, profit margins, cash flows, and balance sheets. This is supplemented with industry data from Bloomberg and LSEG, providing growth rates, peer comparisons, and macroeconomic trends, alongside equity research and analyst reports to gauge strategic positioning and synergy potential. Historical financials are analyzed to identify trends and inform projection assumptions. Using these, forecasts are developed that reflect industry growth rates and company-specific guidance, forming the basis for projected financial statements. Standalone valuations for both companies are calculated through DCF models, using a Weighted Average Cost of Capital (WACC) derived from market data to discount projected free cash flows. While it was attempted to conduct additional analyses using comparable transactions and multiple approaches, these did not yield reasonable results and are therefore not considered within the analysis (see Appendices A and B). The merged entity's DCF valuation incorporates synergies, enabling a comparison with the sum of the standalone valuations to estimate the net present value of synergies and assess whether the merger justifies acquisition costs. Finally, an A/D analysis compares post-merger Earnings Per Share (EPS) to standalone EPS projections, indicating whether the merger creates or destroys shareholder value. Further evaluation metrics such as deal NPV and returns are analyzed to assess the profitability of the deal.

Appendix WW. Post-Merger Integration and Considerations.

The merger faces several challenges, including regulatory approval concerns due to potential antitrust issues and market dominance fears. Negotiations could falter if the deal structure does not align with management expectations or if there are disagreements over valuation and terms.

Integration challenges, like aligning corporate cultures and operational practices, could hinder productivity and employee morale. Additionally, anticipated synergies might not materialize as expected, potentially leading to disillusionment among stakeholders and affecting financial performance. Unforeseen market volatility and external economic conditions, like fluctuations in energy prices and changes in demand, could further complicate the post-merger landscape.

Donald Trump’s re-election introduces uncertainty, particularly due to his protectionist trade policies, such as higher tariffs and trade restrictions. However, his pro-business stance, including tax cuts and economic growth initiatives under the "America First" agenda, could benefit businesses. As the deal involves an American acquirer and a Canadian target, it is less exposed to extreme protectionism, though international operations could face increased scrutiny or regulatory challenges. While a full repeal of the IRA seems unlikely, potential adjustments could impact operations. Trump's focus on fossil fuels and tax cuts for U.S. companies may favor the merger participants, as seen post-2016 (Chahine, Dbouk, and El-Helaly 2021). However, policy uncertainty is generally linked to reduced M&A activity and macroeconomic instability (e.g. Bonaime, Gulen, and Ion 2018). The precise impact of his second term remains unclear.

Appendix XX. Limitations.

The proposed merger between Enphase and Canadian Solar faces several limitations that could impact the accuracy and thoroughness of the analysis. A significant limitation is the potential for inaccuracies in financial forecasts due to reliance on varying market data and assumptions about future energy demands. The availability of market information is restricted, as neither company may disclose all relevant financial and operational data, leading to gaps in the analysis. Another limitation is the study’s inability to account for external factors such as changes in jurisdiction, political regimes, and regulatory environments, which can vary significantly between the regions where the companies operate. These regulatory shifts can significantly impact the viability of the merger but may not be fully captured in the forecasting models.

Appendix YY. Table of Figures.

Appendix ZZ. Glossary of Abbreviations.

Abbreviation	Definition
AC	Alternating Current
A/D	Accretion/Dilution
CAGR	Compound Annual Growth Rate
Canadian Solar	Canadian Solar Inc.
CapEx	Capital Expenditures
D&A	Depreciation and Amortization
DC	Direct Current
D/E	Debt-to-Equity
EBIT	Earnings Before Interest and Taxes
EBITDA	Earnings Before Interest, Taxes, Depreciation & Amortization
Enphase	Enphase Energy Inc.
EPC	Engineering, Procurement and Construction
FCF	Free Cash Flow
G&A	General and Administrative
IPO	Initial Public Offering
IRA	Inflation Reduction Act
M&A	Mergers & Acquisitions
NOPLAT	Net Operating Profit Less Adjusted Taxes
NPV	Net Present Value
NWC	Net Working Capital
OCF	Operating Cash Flow
OpEx	Operating Expenses
PPE	Property, Plant and Equipment
PV	Photovoltaic
R&D	Research & Development
ROA	Return on Assets
ROE	Return on Equity
ROIC	Return on Invested Capital
SG&A	Selling, General and Administrative
UFCF	Unlevered Free Cash Flow
WACC	Weighted Average Cost of Capital