

# Blue Oceans Capital *Integration of PRI Guidelines*

CASE STUDY:  
Solar Edge

# Executive Summary

---

SolarEdge is a leading provider of PV panels, inverters, and battery storage solutions serving both the residential and commercial sector. We opened our position in the company in April, 2019. The company exhibits strong financial fundamentals and is well aligned with environmental concerns by the very nature of its business. However, in completing our ESG analysis process a number of issues arose that demand our attention.

SolarEdge is strong in ESG alignment in that it advances renewables generally but also in its prominence as a leading innovator in the industry providing a number of category leading products including the most advanced PV panel and inverter system available. The company's strategy is also aligned with major trends in the industry including power storage systems, virtual power grids, electric mobility, and robotic manufacturing. However, there is a clear lack of broader ESG awareness with no documentation of employee satisfaction, no disclosure of pollution control efforts, lack of diversity amongst management, and lacking disclosure around certain financial data points such as the cash flow statement.

We have identified these ESG concerns and will continue to monitor them however we are confident in applying our analytical capabilities to SolarEdge despite these concerns due to our belief that the underlying fundamentals that drive this business are strong. We believe that the economics of solar power will continue to strengthen even with the reduction of subsidies, the effects of partial grid defection will continue and accelerate, the need for inverter replacement will accelerate, and the point of economic viability in commercial battery storage has arrived. SolarEdge is very well placed to take advantage of these macro trends and we are confident in our investment.

# Strategy

---

## HIGH LEVEL ESG RECOGNITION

### How does the company act as a positive force for environmental concerns?

- By manufacturing and distributing residential PV panels, inverters, and battery storage.
- By manufacturing and distributing commercial small scale utility PV panels and inverters.
- By manufacturing and distributing power optimisers that increase the efficiency of PV panels.
- By manufacturing and distributing an efficient solar hot water system.
- By investing in research and development of electric mobility battery storage solutions.

- By investing in research and development of residential and commercial battery storage solutions.
- By investing in research and development of virtual power plants that have the potential to meaningfully reduce global dependence on fossil fuel power sources.
- By lowering the cost of solar energy production and by making this source of energy cheaper than more polluting alternatives.
- By providing industry leading monitoring and efficiency software improving efficiency and reducing maintenance costs.
- Through its dynamic maximum power point tracking loss capability that optimises the maximum power point (*MPP*) of the PV panel.
- By localising its factories at various locations around the world minimising shipping distances.

**How does the company not act as a positive force for the environment?**

- In pollution associated with the manufacture of energy storage solutions.
- In pollution associated with the manufacture of solar PV panels.
- In pollution associated with the manufacture of power optimisers.
- In the event its manufactured products are incorrectly disposed of.

**How does the company act as a positive force for social concerns?**

- By creating a more reliable source of power for some users.
- By allowing users to have independence from the grid and self-sufficiency.
- By allowing PV panels to be installed on rooftops where it was not previously viable due to partial shading.
- By providing an industry leading warranty.
- By providing industry leading monitoring and efficiency software.
- By paving the way for economical energy storage and through that technology unconstraining the electric vehicle market.
- By providing industry leading safety features reducing the possibility of electrocution and fire hazards.
- Through its innovations lowering operating and maintenance costs of its products.
- By providing industry leading reliability and longevity.
- By providing a home EV charging solution.
- By recognising risk inherent in contract manufacturers and raw material suppliers in that they may fail to use ethical business practices and or comply with local laws and regulations. SolarEdge recognises that if such a supplier was to fail in its ethical responsibilities it may seek an alternative supplier.

**How does the company not act as a positive force for social concerns?**

- In certain areas the cost of solar battery storage may be more than conventional grid power supply (*e.g. in areas with low annual solar availability*).
- By not having any union representation for its workers.
- Potentially unfavorable working conditions in some factories (*China, Vietnam, Hungary, and Romania*). However their working conditions are unknown.
- Upfront costs of solar and battery solutions are very high and the return period is quite long.

**How does the company act as a positive force for governance concerns?**

- Operating under a capital light framework by outsourcing manufacturing where prudent to.
- A comprehensive and honest risk assessment in the annual reports that highlights many risks uncovered through our independent research.

- Internal controls over financial reporting have been set and reviewed by the internal auditor.
- Remuneration is set at market rates.

**How does the company not act as a positive force for governance concerns?**

- Not limiting the liability on certain contractual obligations through standard form contracts.
- Inconsistency in the highlighted metrics in company publications.
- Inadequate notes to the cash flow statement.
- Revenue concentration among top 3 customers continues to be a concern.

**What external ESG factors affect the company?**

Major influencing factors include:

- Global government policy and incentives set largely towards transitioning to a sustainable economy and meeting the targets as set out by The Paris Agreement.
- Cost of electricity rising from utilities due to partial grid defection.
- Increasing competition and patent infringement. For example, SolarEdge is currently suing Huawei for patent infringement.
- Changes in federal, state, and local regulations in regard to net metering policies with the reduction, elimination, or expiration of subsidies and incentives.
- Changes in the energy landscape affecting future demand for solar energy.
- Changes to US trade policy especially in regard to tariffs on Chinese goods.
- Changes in the retail price of alternative energy sources and grid derived energy.
- Historic cyclical nature of the solar industry.
- Capacity constraints, delivery schedules, manufacturing yields, contract manufacturer costs, and component availability.
- Internal practices and safe harbour provisions and general compliance of raw material suppliers.
- Performance of distributors and installers.

## MANAGEMENT

**How has the company demonstrated its awareness of ESG factors in the economy and within its industry?**

- Comprehensive reference to major internal and external ESG factors in listing risk factors in the annual report.

For example, comprehensive identification of ESG factors on pages 1 - 31 of the FY18 Annual Report and as summarised above.

- Reference to current internal and external ESG factors in earnings calls.

For example numerous references to the China/US trade relationship in the FY18 and Q1 19 earnings calls. Reference to average selling price and volume drivers in both those calls.

**Where has management demonstrated its commitment to addressing ESG challenges?**

- Through its general strategy of advancing renewable energy.

For example SolarEdge has developed some of the most efficient solar panels and inverters in the industry. SolarEdge is also now heavily investing in energy storage solutions and R&D where innovation is essential to unlocking enormous potential for renewables to replace more of current global fossil fuel reliance.

- Through its innovation in industry leading product safety capabilities.

SolarEdge's unique PV architecture allows for industry leading safety capabilities as each panel is monitored the system is shut down before there is a risk of electrocution to the technician.

- Through its diverse global production facilities limiting geopolitical risk.

SolarEdge has factories in China, Korea, Vietnam, Hungary, and Romania. These factories are also located in relative proximity to markets reducing environmental shipping impacts.

NOTE: There is lack of environmental ESG data in terms of pollution mitigation through the product life cycle and lack of employee welfare data.

#### **How has management demonstrated its knowledge on the company's ESG risks?**

- By comprehensively disclosing these risks in its annual reports.
- By referring to relevant significant risks in the earnings calls.
- By taking steps to mitigate some of the more significant risks. For example by having multiple factories in various global regions mitigating geopolitical risk and reducing shipping costs and by implementing industry leading safety measures fully compliant with various global government regulations.

#### **How does strategy align with ESG opportunities?**

- By developing capacity and innovation in some of the biggest environmental opportunities of our time including:
  - Solar Power
  - Home energy storage
  - Commercial energy storage
  - EV energy storage
  - EV powertrain technology
  - Virtual power plant technology
  - Smart home energy use software

In making a comment on recent business acquisitions, Guy Sella, CEO said, *"We're very mindful of the fact that this is a lot to take on and our hands are full. Having said that, we are confident that over time, you will see the synergies of these companies as we see them and will appreciate that the power of the combined companies will accelerate the clean energy and e-mobility evolution that we want to lead."*

#### **Is there evidence of the company reporting highlighting future ESG risks and does the strategy allow for these anticipated risks?**

Yes. Examples of highlighted future ESG risks include:

- Changes to US/China trade policy affecting the price of components manufactured in China and destined for US markets.

SolarEdge has invested in multiple factories outside of China and has been ramping up production in those facilities in anticipation of further escalation in trade tensions.

"It's a two-action process. In one hand, we try to ramp up outside of China in low-cost Asian factory as best as possible. On the other hand, if we'll need, we'll increase prices to overcome the tariff for the percentage of the product that we will have to keep shipping from China. And a secure plan B, we crossed fingers that Mr. Trump wants to increase the 201, 301 taxes." Guy Sella, CEO, FY18 Q4 Earnings Call.

- Changes in net metering policy reducing feed in tariffs and the economic viability of solar as an energy source.

SolarEdge constantly innovates to reduce the average selling price of its products while maintaining gross margins on those product lines.

#### **What is the extent of ESG performance reporting?**

Minimal. There is no information regarding:

- Internal sustainability reports

- No reference to HR diversity or any related targets.
- No reference to pollution control or mitigation.
- Not auditing or reviewing of supplier's ESG related procedures and performance.

**Do reports link ESG factors to financial performance?**

No.

**What is the company's position in relation to current and potential operational licences, supply chain, and resource bottlenecks?**

- Main relevance firstly, is the supply chain bottlenecks where there is currently a shortage of component availability that effects SolarEdge and to a greater extent its competitors. SolarEdge has been able to mitigate this problem by producing more of its components in-house through a number of factories located in China, Vietnam, Korea, Hungary, and Romania.
- The second major factor in this regard is the current trade tariffs imposed on China by the United States. SolarEdge is mitigating this factor by ramping up production in its factories located outside of China as mentioned above.

**What is the extent of management involvement of customers, employees, government, and other stakeholders? How do they gather data on their sentiment/opinion?**

- Very limited or at least not publicly disclosed. Many references to trade reports would back the view that the gathering of data from customers is quite limited. No mention of employee data and very limited mention of government or other stakeholder data.

**How responsive is the company to investor engagement?**

- Metrics hard to ascertain, however management is quite forthcoming in answering all questions posed on earnings calls.

**Does the board support ESG issues?**

- Unknown.

# Financial Reporting

## INCOME STATEMENT

### REVENUE

**Identify the main drivers of revenue for both volume and price.**

- Number of power optimisers and the average selling price
- Number of inverters and average selling price
- Number of GWs shipped
- Growth out of Europe particularly in commercial installations
- Growth out of Australia
- Overall growth of commercial installations
- Ability to maintain margin while lower the cost of products (*Average Selling Price (ASP) erosion*).
- Seasonality.

### How do these drivers align with sustainable ESG factors?

- The advent of partial grid defection is leading to fewer users to spread the very high fixed costs of traditional power utilities over. This is leading to higher power prices and further accelerates the uptake of more economical solar options.
- The company's focus on innovation and driving down ASP's of its products further enhances the economic viability of solar and accelerates partial grid defection.
- The agenda set by many global governments in meeting sustainability targets and The Paris Agreement accelerates the uptake of PV panels, inverters, and energy storage systems.

### What are the future prospects for these drivers? Including the fundamental tailwinds that support their future growth.

Firstly, the fundamental tailwinds that support these drivers look set to continue and strengthen. For solar panels and inverters the case for partial grid defection and rising electricity prices looks set to accelerate. However, trends in global reduction in government subsidies of PV energy production are reducing and being eliminated. For solar to be sustainable over the long-term it will have to be economically viable in its own right without subsidies.

Secondly, the future of energy storage looks very encouraging as innovations have brought the price per-kilowatt-hour now equal to or below the price of grid production. Research by D'Aprille, et al, (2016), showed considerable near-term potential for energy storage with costs potentially falling below \$200 per-kilowatt-hour in 2020, and further to \$160 in 2025. This compares to almost \$1000 in 2010. Research by Frankel and Wagner (2017) suggested that commercial storage is already commercially viable and Noffsinger, et al, 2018 stated that, "*The market for distributed battery installation in the United States is set to expand rapidly - as much as 50% a year.*"

### What major risks exist in the potential of these future prospects to not become a reality?

- Major changes in the current energy landscape. For example large-scale ramp up of nuclear facilities.
- Reductions in feed-in tariffs and higher costs of components detracting from the economic viability of solar.
- Increases in the costs of raw inputs of battery storage components.
- Governments may grant a fixed-rate charge for grid power to protect losses currently being incurred by traditional utilities. This may lessen the economic case of PV power (Revesz & Unel, 2018).

### How might ESG trends impact this company's core markets?

#### PV Panels & Inverters

- Reduction in feed-in tariffs may reduce demand particularly in the residential market.
- Partial and full grid defection may increase the cost of grid power and enhance the economic viability of solar.

#### Battery Storage

- Presence of an increase in large-scale commercial wind power facilities creates for high demand in commercial energy storage solutions.
- Any change in government attitudes towards renewable alternatives such as nuclear may significantly alter their economic viability and therefore the demand for battery storage solutions.

### What legislative or regulatory change is anticipated?

- Feed-in tariffs are anticipated to continue to be phased out around the globe. Solar may not be viable in some areas without being subsidised. Cloete (2019), stated that, "*The average solar farm does not give any return on investment without direct subsidisation.*" He goes on to state that there is an exception in specific locations where solar is naturally more

available and therefore more economically viable. In an article by The Guardian (*Mathiesen, 2016*), Yan Qin, senior modelling analyst at Thompson Reuters Point Carbon, is quoted as saying the solar industry, “*Would require government subsidies for at least another 15 years in order to compete against established fossil fuel technologies such as coal and gas.*”

**Are the company’s key markets sustainable in terms of resource use and disposal?**

Perhaps not at this time.

- It appears SolarEdge has more work to be done in considering the full life cycle of its products or at least in communicating its sustainability credentials in this area. In our research we have uncovered no mention of sustainability efforts in raw material mining, manufacturing of products, and disposal of products at use end.

**Are the company’s key markets sustainable in terms of consumer preferences and social trends?**

Yes. Major consumer trends are in favour of solar power and energy storage systems.

## COSTS

### RAW MATERIALS

**Is there a risk input costs will rise?**

Yes.

Raw materials. Demand, especially for battery materials is rising and is anticipated to keep rising as the efforts to meet increasing demand collide with a finite resource. However the current situation is one more of oversupply as indicated by global lithium giant Albermarle who stated in a recent earnings call that a flood of new supply is pushing prices down (*Evans, 2019*).

**Is the company aware of these risks?**

Unknown or not mentioned. .

**Do cost projections take into account these risks?**

Unknown or not mentioned.

**TABLE 1. GROSS INCOME AS A PORTION OF REVENUE**

Company	FY18	FY17	FY16
SolarEdge	34.06%	41.11%	33.73%
SMA	12.28%	21.50%	24.64%
Enphase	29.87%	19.58%	17.98%

*Gross income as a portion of revenue. Source: Factset.*

As seen above, SolarEdge is a leader in input cost efficiency well ahead of its competition in terms of Gross Margin. This is an indicator of not only raw material efficiency but also labour use.

### LABOUR

In assessing a company’s efficiency in labour and spend on R&D, we use these metrics as a portion of gross income. We use gross income instead of revenue as gross income are the funds available for these investments. If we use revenue then a company could be running at a loss compared to its profitable competitor and still spend a similar portion. However, it would not be as sustainable as its competitor as it did not use cash flow generated from its own activities for these expenses.



Labour is measured in gross income above and also in general and administrative expense below.

**TABLE 2. PORTION OF GENERAL AND ADMINISTRATIVE EXPENSE OF GROSS INCOME**

Company	FY18	FY17	FY16
SolarEdge	30%	27%	33%
SMA	106%	49%	44%
Enphase	58%	81%	114%

*General and Administrative expense as a portion of gross income. Source: Factset.*

As seen above in Table 2, SolarEdge exhibits outstanding efficiency in labour and administration resources.

NOTE: No information has been found on employee engagement, workplace satisfaction, or staff turnover. The working conditions of employees below senior management are not known.

## R&D INVESTMENT

**TABLE 3. R&D SPEND AS A PORTION OF GROSS INCOME AND TOTAL (USD BILLIONS).**

Company	FY18	FY17	FY16
SolarEdge	26% (\$82)	22% (\$54)	25% (\$41)
SMA	73% (\$80)	34% (\$73)	25% (\$64)
Enphase	34% (\$33)	59% (\$33)	87% (\$51)

*Investment in R&D as a portion of gross income and total in millions of USD. Source Factset.*

In Table 3 above we can see consistent and sustainable R&D spend by SolarEdge moving to higher total amounts than competitors in FY18 however at a much lower portion of gross income. This shows both a commitment to R&D advancement and to do it sustainably.

### **What is the product development strategy? What is the percentage of sales from new products?**

Power Optimisers.

Continue to innovate 4th and 5th generation with proprietary use of ASICs to control power conversion, safety features, and module monitoring. Continuing to develop subsystems for 5th generation ASIC to be used in 5th generation power optimiser. Each new generation reduces the number of components required and makes significant improvement in the power efficiency of the optimiser.

- Inverters.

Inverter development aimed at: 1) expanding addressable market by developing new and larger inverters for commercial and utility-scale projects, 2) to make improvements in ease of installation, 3) improvements to electronics increasing total power throughput thereby reducing actual cost per watt and increasing economies of scale.

- Monitoring Services

Developing tools to support growth in aggregate data collected and to further enhance the offering with particular focus on increased data compression in order to support rapid increase in incoming data volume. Also plan to improve reporting capability and allow users to generate self-customised reports. Algorithms are being expanded in order to detect and find problems that can affect power production.

- **Energy Storage**  
Continued expansion of third-party offering and integration thereof. In regards to the commercial market, currently expanding company's own StorEdge product into commercial and industrial sector.
- **New Products and Categories**  
Uninterruptible Power Supply (*UPS*) products - entered the market with the acquisition of Gamatronic. Products currently under development and no sales expected for at least the next 18 months.
- **Lithium ion batteries and related products**  
Entered the market with the purchase of Kokam. Manufacturing facility currently under development. Servicing existing Kokam customers however no meaningful revenue from this line expected for at least another 18 months.
- **Percentage of Sales from New Products**  
All products are running on the current version most of which are updated every 1-2 years. Percentage of sales from new product lines that didn't exist one year ago < 10%. Expected to increase significantly when production of new product lines as mentioned above comes online.

**What are the pending patent applications and is there in-house venture capital?**

Pending patent applications 209 (*filed and pending*) FY18.

No in-house venture capital we are aware of.

## NON-RECURRING AND EXCEPTIONAL EXPENSES

Current legal proceedings include:

- IP infringement lawsuit filed by SolarEdge against Huawei. Total value unknown.
- Lawsuit against SolarEdge for approximately \$2.5M USD by a trustee of a former customer
- IP infringement lawsuit filed by SMA against a German subsidiary of SolarEdge in Germany. Value potentially \$11M USD.
- Legal proceedings regarding commercial battery fire against subsidiary Kokam. Value potentially \$6M USD.

Total Value of Litigation - Unknown but potentially approximately \$20M or 6% of FY18 gross income.

**What are the organisational and incentive structures?**

Executive remuneration aligned with company performance. In FY18 CEO remuneration was comprised of metrics based on 70% financial achievement, 7% operations, 17% strategy, and 6% scalability and infrastructure. Financial achievement parameters for the minimum requirement for bonus payments were contingent on the company exceeding 70% of its financial targets and with a positive net income. Financial metrics were comprised of revenue, net income, and gross margin targets.

Remuneration of other executives in FY18 was comprised of 50% financial, operational, and strategic objectives and 50% individual performance.

**Table 4. Executive Bonus Structure**

Goal Type	Percentage	FY18 Achievement vs Goals
Revenue	35%	\$914M vs \$720M Goal
Net Income	14%	\$136M vs \$90M Goal
Gross Margin	21%	35.0% vs 35% Goal
Strategy	17%	Build UPS business & establish means of battery manufacturing
Scalability & Infrastructure	6%	Development of new manufacturing facility and advanced laboratories.
Operations	7%	Increase manufacturing capacity >35% and completion of new inverter models.
TOTAL	100%	114.3% of Target Achieved.

*FY18 bonus structure and achievement against goals for financial, operational, and strategic targets.*

*Source: SolarEdge Section 14A Proxy Statement April, 2019.*

#### **What is the extent of stakeholder research?**

Very limited. Some reference to industry reports but very minimal.

#### **What is the company doing to mitigate ESG risks in regards to costs?**

- Advancing automation of assembly lines
- Developing proprietary automation robots and process specifically for SolarEdge products.
- Developing capacity and multiple manufacturing sites across the globe in produce closer to end users reducing shipping time and expense and to reduce geopolitical risk and cost.
- Multiple innovations driven at reducing total components used in products.
- Lower wage cost by manufacturing in countries with a low cost of labour.

#### **Does the company report on these risks?**

No. Not specifically.

#### **What is the company's capacity to sustain or improve operating efficiency?**

Great. High gross margins allow for large total spend on innovation. There are still multiple production lines to be automated in the current product offering. In regards to battery storage SolarEdge has immense capacity to improve current operating efficiency of its acquisitions through its current efforts to develop its own manufacturing robots for its specific products. This will become a significant source of competitive advantage as some competitors outsource all of their manufacturing. Those components are made in a factory that produces for multiple brands and have much less capacity to innovate for individual brand requirements.

**TABLE 5. CEO REMUNERATION FY2018**

Company & Market Val	Base Salary	Cash Bonus	Option Award	Stock Award	Other	TOTAL
SolarEdge (2640M)	595,267	0	1,363,073	1,449,971	674,897	4,083,208
SMA (\$800M)	892,000	25,000	40,000	0	0	957,000
Enphase (\$1048M)	450,000	211,168	0	2,056,500	0	2,717,668

*The table above shows CEO remuneration for SolarEdge and nearest competitors. SolarEdge compares favourably at market rates considering its market capitalisation.*

#### **Growth in Shares Outstanding**

Diluted shares outstanding has grown at a modest 3.8% since 2016.

# BALANCE SHEET

## ASSETS

**What percentage of total assets are intangible assets?**

**TABLE 6. INTANGIBLE ASSETS AS A PORTION OF TOTAL ASSETS.**

Company	FY18	FY17	FY16
SolarEdge	8%	NA	NA
SMA	4%	6%	6%
Enphase	18%	2%	3%

Source: Factset.

Table 6 above displays intangible assets as a portion of total assets for SolarEdge and its competitors. Of note is the very moderate amount in FY18 coming off a nil base in prior years with the recent acquisitions. This highlights the organic nature of revenue growth.

**What are the environmental provisions and are they sufficient versus the company's historical costs and those of its peers?**

No data regarding any such provisions provided.

**Do notes to the balance sheet recognise environmental risks to physical assets?**

No.

**Do notes to the balance sheet or management discussion recognise ESG risks to reputation?**

Yes, recognised in Risk Factors in the annual report.

**What percentage of total assets are intangible assets? To what extent do brand, reputation, human capital, management quality, and intellectual property compromise intangible capital?**

As outlined in table above.

**How strong is the company brand?**

Strong and getting stronger. An interview with three installers confirmed that they were very satisfied with the product.

**What is the strength of customer satisfaction and loyalty?**

Strong.

**Does the company have pricing power?**

Limited. Solar panels, inverters, and battery storage systems largely compete on price and features are secondary. Customers are prepared to pay a little more for better features but not much more.

**How are employees incentivised and what is the degree of engagement and staff loyalty?**

Little data provided. In regards to executive incentives, see Table 4 above.

**What is the structure (relevant committees) and diversity of the non-executive board?**

- Audit Committee
- Compensation Committee
- Compensation Committee Interlocks and Insider Participation
- Nominating and Corporate Governance Committee.

Clear lack of diversity of the non-executive board.

**How dynamic and committed is executive management?**

Both very dynamic and very committed.

**Are pension assets being managed by ESG aware practitioners?**

Unknown.

LIABILITIES**Are liabilities short or long-term? An ability to negotiate long-term debt agreements can signal a trusted relationship and lender confidence.**

Non-applicable.

**How efficiently is working capital managed?**

- DSO moved from 83 days in 2014 to 80 days in 2018.
- DSI has stayed at 83 days in 2014 and 2018.
- DSP has moved from 120 days in 2014 to 63 days in 2018.

The above metrics indicate that working capital is well managed.

**How reliable are relationships with suppliers and customers?**

In the past relationships have been quite reliable.

**What is the extent of off-balance sheet commitments?**

Significant.

- Unlimited liability in certain contracts for li-ion batteries.
- Non-cancelable purchase obligations totalling \$263M
- Legal proceedings potentially totalling over \$7.5M
- Unknown future warranty obligations.

**Is excessive leverage eroding stakeholder trust and raising the cost of equity?**

Non-applicable.

**Do debt covenants specify any aspects of ESG risk management?**

Non-applicable.

CASH FLOW STATEMENT**Cash Flow From Operations****TABLE 7. CASH FLOW FROM OPERATIONS (CFFO) AND NET INCOME (MILLIONS USD).**

Metric	FY18	FY17	FY16
CFFO	189.08	136.67	49.10
Net Income	128.83	84.17	50.76

Source: Factset.

Table 7 above displays CFFO and Net Income. If CFFO is significantly less than net income the income statement may have been manipulated. This is a measure of earnings quality. Here we can see CFFO above Net Income in each year.

**Are operating expenses being reduced by investment in new resource-efficient technology?**

Yes. SolarEdge is investing heavily in assembly automation and is currently developing robots specifically for internal use in production lines.

**Is capital expenditure covering asset depreciation?**

Yes.

**Does capex investment in operational and resource efficiency today reduce the need for capex in the future and therefore point towards improvements in free cash flows?**

Yes.

**Does due diligence on acquisition targets cover long-term ESG risks? Is there a risk that inadequate ESG due diligence results in greater than expected environmental liabilities post-acquisition?**

Yes. Evidenced by all acquisitions that are aligned with ESG risks. For example, Kokam is aligned with potential risk of battery manufacturers moving into adjacent product categories such as inverters and solar panels. Investing into S.M.R.E. and its robotics addresses the risk of a competitor innovating their production facilities and intern lower cost of production below that of SolarEdge.

**Are there favourable long-term debt facilities that indicate a good relationship with lenders? What are the available borrowing costs? Could the company qualify for a lower rate if it improved its management of ESG risks, specifically in the case of project finance?**

Non-applicable.

## Valuation

**Looking over the factors highlighted through the analysis above, how should the cash-flow projections be altered or what margin of safety do we require to be comfortable to make a purchase?**

In reviewing all ESG factors above we find no reason to adjust our cash flow forecast downwards. There is a possible case for a conservative adjustment upwards.

## References

Cloete, S. January, 2019. "How much subsidy does solar need and for how long?" Energypost.eu. Retrieved from: <https://energypost.eu/how-much-subsidy-does-solar-need-and-for-how-long/>

D'Aprille, P., Newman, J., Pinner, D., August 2016. "The new economics of energy storage." McKinsey & Company.

Evans, N., May 2019. "Lithium giant warns of oversupply risk." The Australian. Retrieved from: <https://www.theaustralian.com.au/business/mining-energy/lithium-giant-warns-of-oversupply-risk/news-story/dc23eccf7fc73bb17c341d6ea92022a6>

Frankel, D., Wagner, A., June 2017. "Battery Storage: The next disruptive technology in the power sector." McKinsey & Company.

Mathiesen, K., January 2016. "What is holding back the growth of solar power?" The Guardian. Retrieved from: <https://www.theguardian.com/sustainable-business/2016/jan/31/solar-power-what-is-holding-back-growth-clean-energy>

Noffsinger, J., Rogers, M., Wagner, A., April 2018. "Why the future of commercial battery storage is bright." McKinsey & Company.

Revesz, R. & Unel, B., 2018. "The future of distributed generation: Moving past net metering." Environmental Law Institute, Washington.



## Who is Blue Oceans Capital?

Fundamental, value based investments.

Blue Oceans Capital is an investment fund driven to achieve exceptional results with meaningful purpose through dedication to uncovering truth and applying our understanding of what is known and not what is forecasted. We invest in listed equities across the globe.

 **1300 910 445**

 **[info@blueoceans.com.au](mailto:info@blueoceans.com.au)**

 **[www.blueoceans.com.au](http://www.blueoceans.com.au)**

 **200 Adelaide St, Brisbane City QLD, Australia**