

Citron Reports on Enphase and Solaredge... Generac has just Crashed Your Honeymoon.

ENPH to Trade Down to \$7 and SEDG to \$52.

Shorting shares of ENPH and SEDG gives investors the asymmetric advantage in this disruption

What you will read in this Citron Report that investors knew was inevitable:

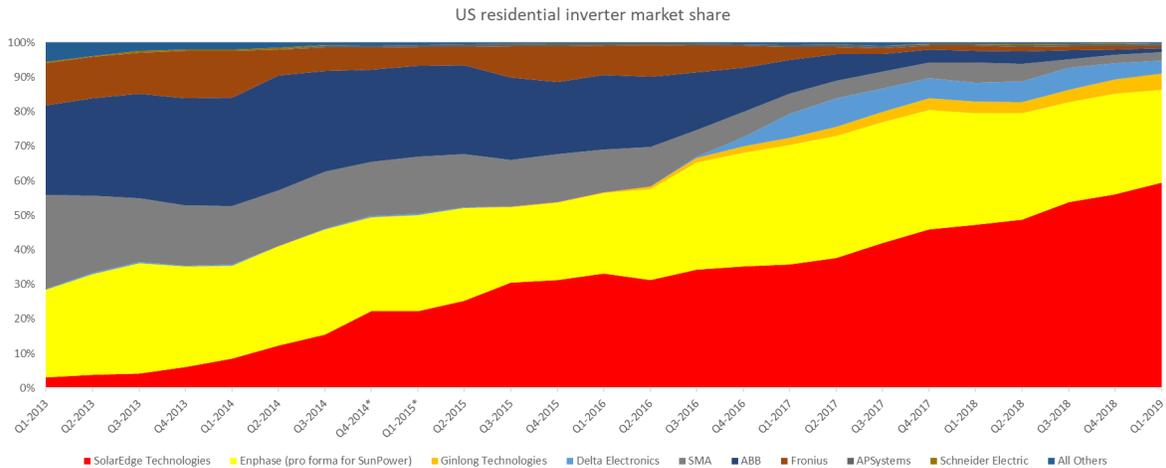
- Solaredge Technologies (SEDG) and Enphase Energy (ENPH), manufacturers of solar inverters for photovoltaic arrays, are trading at we believe significantly inflated multiples on peak earnings even as a very credible competitive threat is about to enter the solar inverter market.
- Citron will prove that ENPH and SEDG have been overearning after changes to the electrical code and trade war escalation that has left a temporary competitive vacuum in the US residential solar inverter market.
- Generac (GNRC) has taken #1 market share in every market it enters. The company is a major new competitive entrant that has the resources and track record to make a huge dent in both SEDG and ENPH's market shares, but given that the company is followed by zero solar analysts, GNRC's commercial launch that was announced last week has gone completely unnoticed.
- **Assuming multiple normalization and growth rate pressure as competition enters the market, we believe SEDG is worth \$51-52 (-33-34% from current) and ENPH is worth \$6-7 (-70-75% from current) over the next 6 to 18 months. Long term downside for SEDG is 55%+ and 80%+ for ENPH.**

Background

Following a 2017 change in the National Electrical Code (NEC 2017), most of the solar inverter companies in the US residential market became noncompliant with the new rules and lost market share to the benefit of SEDG and ENPH, who had compliant solutions. As competitors were forced to reformulate their

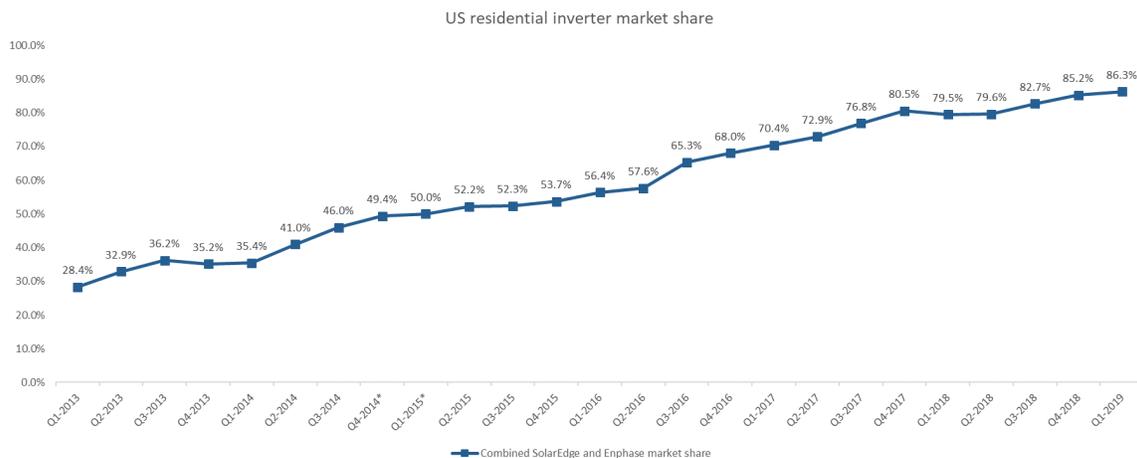
technologies, the US residential market has essentially become a two-player market, split between SEDG and ENPH (with 86% market share combined).

Figure I: NEC 2017 forced many competitors from the US residential inverter market



Source: Wood Mackenzie as of 1Q19

Figure II: SEDG and ENPH now combine for 86% of US solar inverter watts sold



Source: Wood Mackenzie as of 1Q19; ENPH shown pro forma for SunPower acquisition

The stocks of the two companies were catapulted in 2019 when Chinese diversified tech giant Huawei product. [At the eleventh hour](#), amongst rising trade tensions between the US and Chinese governments left [Huawei caught in the crossfire](#), and sales of [Huawei’s products were banned](#) from the US. The relief felt

by investors has since buoyed SEDG shares by 131% and ENPH shares by an astounding 440%!

Let the party begin

Without strong competitors in the marketplace, ENPH adjusted gross margins have expanded by 1,580bps to 34%, while SEDG has taken North America price per watt up by 13% Y-o-Y, in an industry where pricing has fallen consistently for years. While the companies were able to blame rising tariffs on Chinese components as the justification for pricing increases, the new product that will be introduced from Generac discussed below is manufactured in Vietnam, forcing the industry to return to the annual pricing declines as a credible third player enters the market.

Figure IV: without much competition, ENPH margins have expanded dramatically

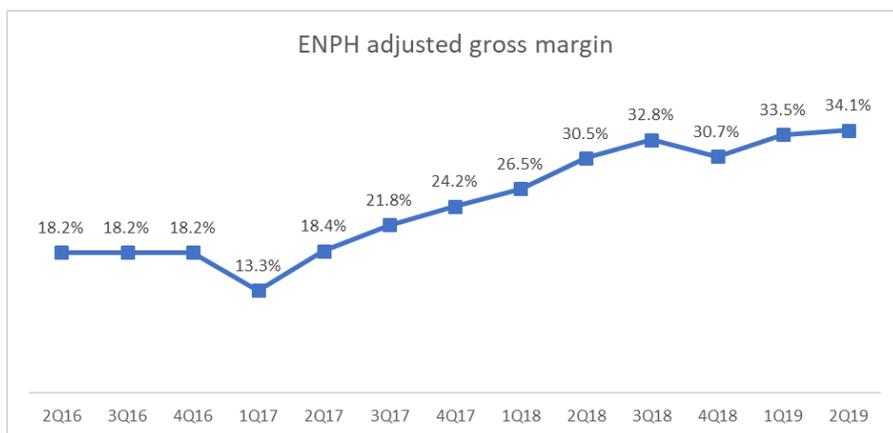
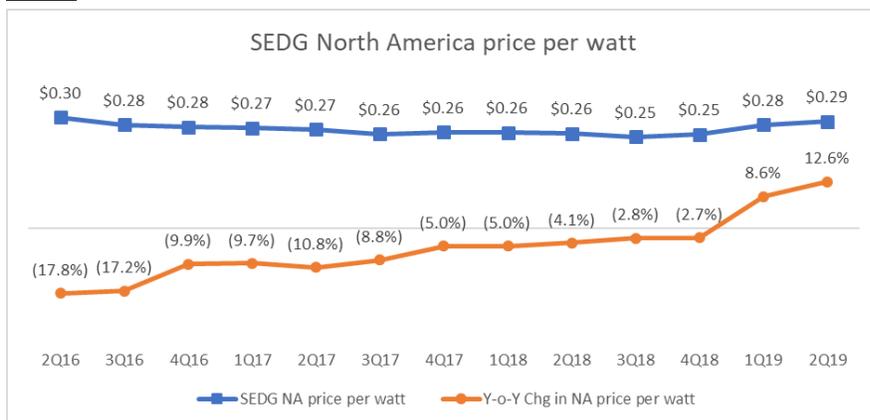


Figure V: without much competition, SEDG pricing is up in North America for the first time in years



Source: Company financials as of 2Q19, conference call transcript

With SEDG now trading at 2.5x and ENPH at 4.7x consensus NTM revenue numbers that already embed significant optimism about market growth vs. long-term average levels of 1.5x and 1.1x, respectively, expectations could not be higher heading into 2020.

Honeymoon is Over... Enter Generac

In an unsuspecting turn of events, just last week gone unnoticed by Wall Street's solar analysts, an even more credible threat than Huawei with a major product launch planned for September 23 will upset the two-player US residential inverter market. Citron will now show the largely unnoticed product from Generec's investor day and how they will be able to disrupt the marketplace..



Generac is a \$5bn market cap company best known for almost single-handedly creating the billion-dollar [home standby backup generator market in the US](#). They operate an omnichannel commercial strategy with presence in retailers like the Home Depot and Lowe's, third party wholesale distribution and a network of 6,100 independent dealers, installers and electricians across the US.

The company shared at its recent investor day that they have had productive discussions with the largest residential solar installers in the country, Sunrun and Vivint, and are already in discussions with the largest solar distributor in the country, CED Greentech, to distribute their product (CED Greentech is a 19.4% customer in SEDG 2018 10-K and could be the unidentified 19% customer in the ENPH 2018 10-K, which would make CED both companies' largest customer).

The company operates a flywheel sales model using media campaigns for lead generation, in-home consultations, and a database of open leads, which Generac revisits after power outages or other demand catalysts. This sales model has led to >75% market share of the core home standby generator market, and more recent forays into adjacent offerings in the US have netted Generac 25-30% share

of portable generators, 30-35% share of heavy motor-powered “chore” appliances, 50% share of telecom backup generators and 35% share of mobile rentals (all market share data from Generac’s 2019 investor day).

The company knows how to create markets and has #1-#2 share positions across its portfolio.

In March and April of 2019, Generac made two acquisitions: [Neurio](#), which sells home energy management software and hardware, and [Pika Energy](#), which has developed an integrated inverter, optimizer and storage solution. The acquired technology:

- Allows fewer optimizers per panel than SEDG (which results in significantly lower cost to customers)
- Is fully compliant with NEC 2017
- Offers integrated battery storage that can go off-grid, ahead of ENPH’s long-promoted (and often delayed) IQ 8 launch, which may not enter the market until the second half of 2020 or later
- Has smart energy management capabilities that allow the system to maximize value to the homeowner (can decide whether to store power for peak consumption, sell produced power back to the grid, or charge up ahead of potential outages)
- Will become extremely cost competitive as Generac moves manufacturing from Massachusetts to Vietnam for the next iteration of the technology (4Q19)

Figure VIII: Generac launching 4Q19



Energy Storage System

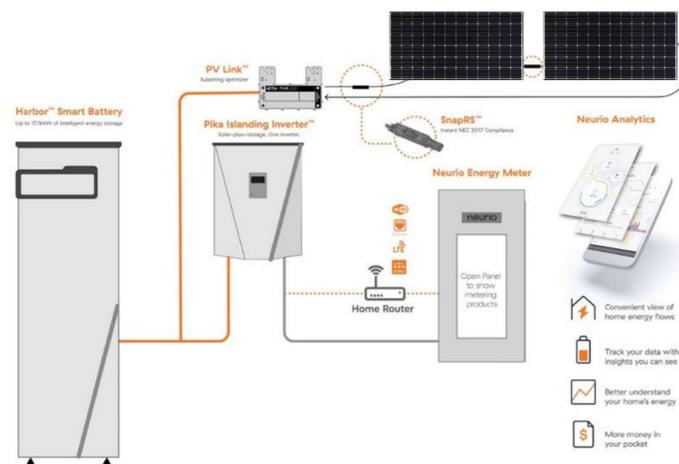
Launch Q4 2019

- Sell through omni channel Generac distribution, large solar companies, and independent solar contractors
- CA Rule 21 compliant
- Includes optimizers and rapid shut down devices (NEC2017)
- Residential & Commercial 3-phase

Source: Generac 2019 investor day presentation

Figure IX: Fully integrated, includes inverters, optimizer, home energy management and storage

Integrated Product Ecosystem



Source: Generac 2019 investor day presentation

In addition to the clear advantages provided by Generac’s extensive channel partnerships, marketing and sales model, and superior buying scale/supply chain, they are headquartered in Wisconsin and would not be subject to the trade barriers that have kept Huawei from establishing a beachhead in the US.

NOW...

Generac will launch the new project at the major industry conference Solar Power International (SPI) beginning September 23, 2019, after which we believe investors will realize the extent of the coming competitive challenge

The days of aggressive ENPH and SEDG pricing are over. Here are some snippets from Generac investor day that cannot go unnoticed.

Generac 2019 investor day excerpts:

- “In 2020, we're planning on growing the [Generac Clean Energy] business exponentially from '19 to '20. We're not launching until late '19. But regardless, on a full year run rate, it's just going to grow exponentially a lot.”
- “We're going to kick off our lead generation in late 2019, as I said, with the new TV show and stuff. But we're going to ramp it up pretty heavy into '20.”
- “We've been plugging this furiously into our supply chain, particularly Vietnam to get around all tariff concerns, so the balance or the most of the system will be coming out of Vietnam anytime between, say, late September, and it will be all the way through to full maturity and probably the end of Q2 '20 will be fully low-cost country here and fully plugged into Generac supply chain.”
- “Our distribution is hungry for another product to add on here. And so it's a great fit for what we've got going on with our dealers and the relationships we have with electrical wholesale houses. We've got meetings coming up, then I'm going to meet with Home Depot. They're interested in putting it in stores, you name it our distribution is a really, really good fit for this. [Generac CEO] mentioned Sunrun and Vivint and some of the big solar installers in the country. Literally, the day we announced these acquisitions. We get phone calls from their teams. [Generac CEO] and I have met with the management teams from all the big solar installers.”

Citron Analyzes Potential Impact

On conservative assumptions, ENPH and SEDG will disappoint materially if Generac gains traction in the US residential solar market, resulting in an estimated 33-34% downside to SEDG and 70-75% downside to ENPH current share price in 6-18 months.

- Assuming Generac gains 10% market share by 2021
- Underlying market growth of 15% with historical level of price declines of -8%
- Using average revenue multiples SEDG goes right back to \$51-52 and ENPH to \$6-7

	2018	2019	2020	2021
INDUSTRY MODEL				
SEDG US resi market share	51.6%	40.7%	37.7%	36.7%
ENPH US resi market share	30.3%	49.0%	45.3%	44.2%
Assumed Generac market share	--	0.3%	7.5%	10.0%
All others	18.1%	10.0%	9.5%	9.1%
Total US resi MW shipped	2,410	3,061	3,520	4,048
MW chg Y-o-Y		27.0%	15.0%	15.0%
Pricing chg Y-o-Y		5.0%	(8.0%)	(8.0%)
SOLAREDGE TECHNOLOGIES VALUATION				
SEDG US resi revenues	\$300	\$316	\$311	\$324
SEDG other revenues	637	1,083	1,104	1,126
SEDG total revenues	\$937	\$1,399	\$1,416	\$1,450
Revenue chg Y-o-Y		49.3%	1.2%	2.5%
(x) SEDG avg revenue multiple	1.5x	1.5x	1.5x	1.5x
= SEDG TEV	\$1,442	\$2,152	\$2,178	\$2,231
(+) net cash	372	372	372	372
Shares	48	50	50	50
Equity value per share	\$37.8	\$50.5	\$51.0	\$52.1
Current	\$80.7	\$80.7	\$80.7	\$80.7
Upside/downside			(36.8%)	(35.5%)
ENPHASE ENERGY VALUATION				
ENPH US resi revenues	\$220	\$462	\$455	\$473
ENPH other revenues	97	130	179	245
ENPH total revenues	\$316	\$593	\$633	\$718
Revenue chg Y-o-Y		87.4%	6.9%	13.4%
(x) ENPH avg revenue multiple	1.1x	1.1x	1.1x	1.1x
= ENPH TEV	\$335	\$628	\$671	\$761
(+) net cash	89	89	89	89
Shares	120	122	122	122
Equity value per share	\$3.5	\$5.9	\$6.2	\$7.0
Current	\$26.5	\$26.5	\$26.5	\$26.5
Upside/downside			(76.5%)	(73.7%)

*Longer term, we think our 10% market share assumption for Generac is too conservative, and we believe this technology will go on to take 30-50% market share in the future, within not only US residential, but also international, commercial & industrial, and utility-scale solar inverters over time. **If ENPH and SEDG simply re-traced back to its share prices at the beginning of this year, then there would be 80%+ downside for ENPH and 55%+ downside for SEDG.**

*Also, it must be considered that legacy inverter suppliers such as SMA Solar and Fronius have their own plans to regain lost market share.

Citron will be proven right – NEXT WEEK

September 23 is the Solar Power International Conference in Salt Lake City.

<https://www.solarpowerinternational.com/attend/housing/>

**Look who was JUST ADEED to the list for Bank of America hosted meetings...
Generac Chairman and CEO Aaron Jagdfeld!**



Conclusion

Citron could have easily written a story talking about potential trade war tensions easing or the widely known fact of pull forward of product to take advantage of a short-term tax credit... but all of that is minimal when the space gets disrupted by a player like Generac.

We know how this movie ends... the solar industry has seen it over and over in every cycle. Pricing goes lower as competition gets more intense and shareholders who blindly chase stock price suffer.

This one is too obvious.

Cautious Investing to All

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