



Here Comes the Sun-E

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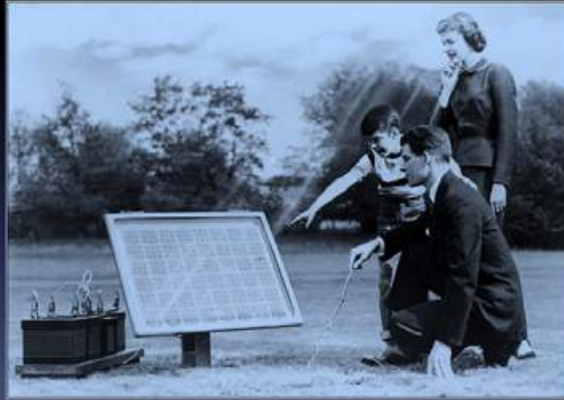
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Photovoltaic history



Sixty years ago, the first photovoltaic solar cells were used to make a toy Ferris Wheel turn.

The next big thing

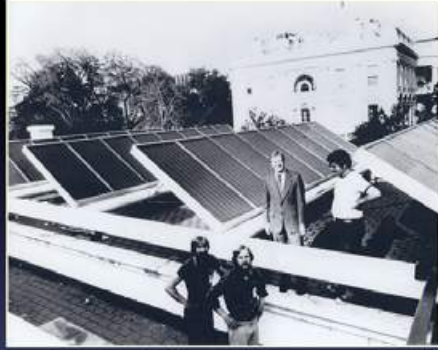


1956 "Bell Solar Battery" ad

The next day, The New York Times ran a page one story proclaiming, "the beginning of a new era..." The sun would be the solution to all our energy needs.

It was so exciting.

... or not

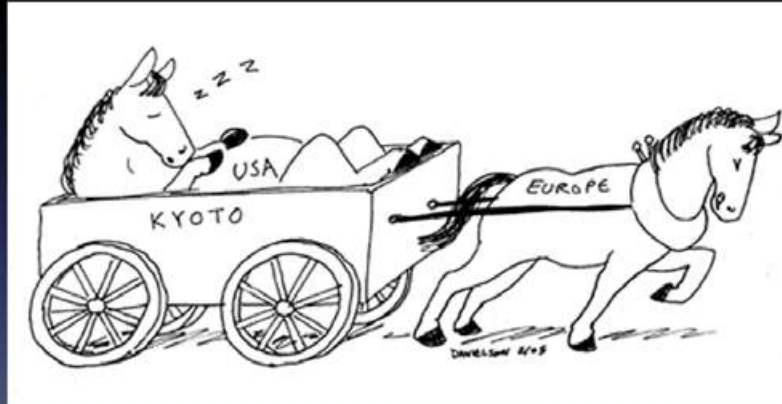


Unfortunately, the early solar modules were clunky, expensive, and inefficient.

In the 70s, President Carter put solar panels on the White House roof and subsidized solar energy.

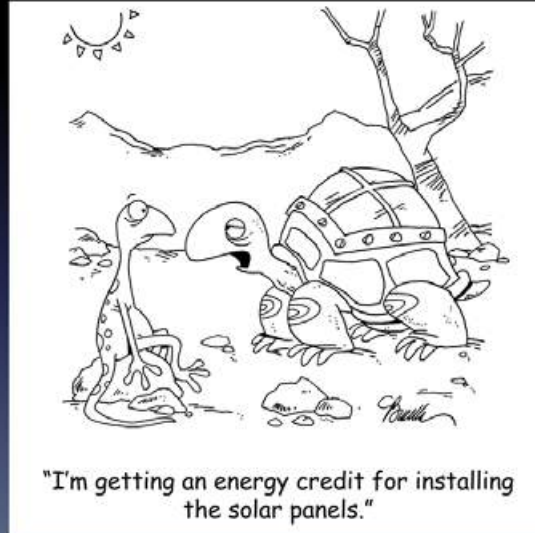
In the 80s, the price of oil collapsed. President Reagan removed the panels, and we forgot about solar.

Europe gets on board



In 1990, the Kyoto Protocol set targets for renewable energy, and the Europeans – particularly the Germans – ended up providing subsidies to jumpstart the solar market.

Feed-in tariff subsidies



The main subsidy was the “feed-in tariff”, whereby anyone producing renewable energy got paid for every kilowatt they fed into the grid.

The turtle says, “I’m getting an energy credit for installing the solar panels.”

Policy reversal headlines

2010:

“German solar subsidy cuts muddy 2010 outlook”

“Spain proposes deep cuts to solar PV support”

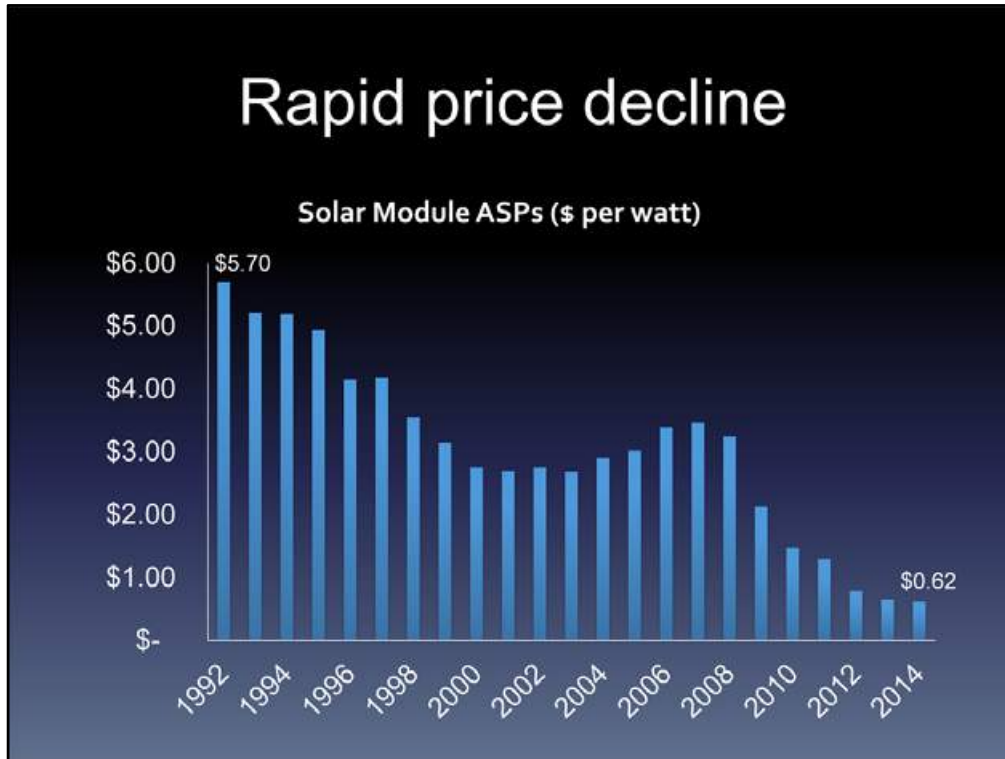
2011:

“[UK] Solar subsidies to be cut by half”

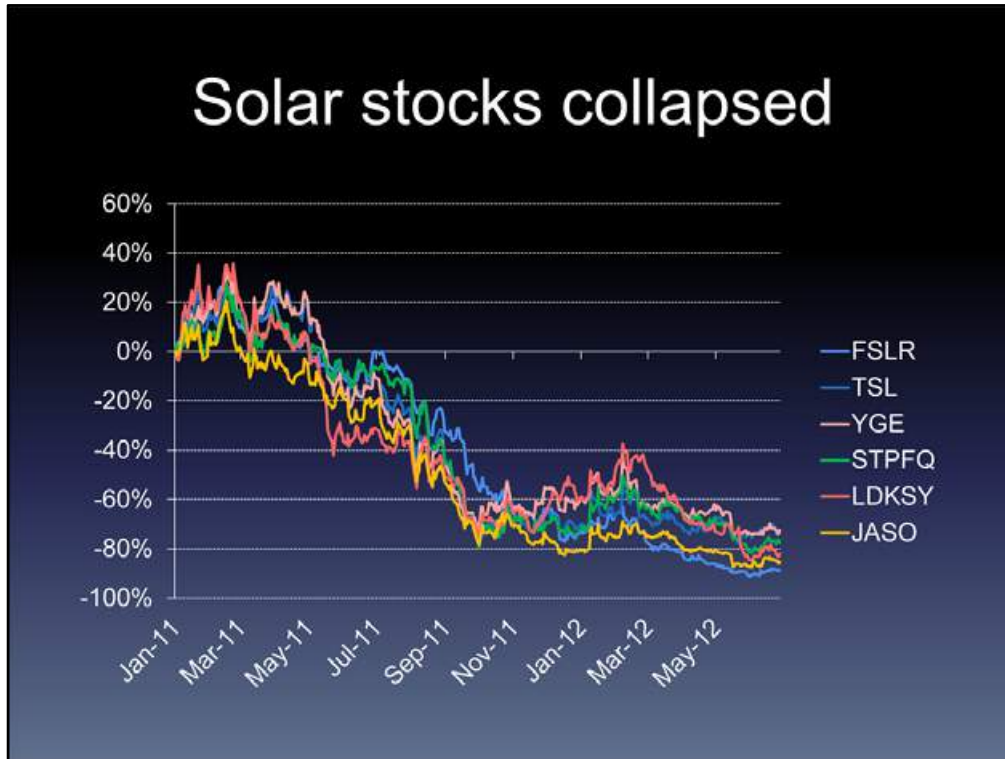
“Energy Conversion Devices To Slash Production As France, Italy Chop Solar Incentives”

The financial crisis pressured European government spending, which led to reduced solar subsidies, which became less politically popular when the solar manufacturing jobs ended up in China, rather than in Europe.

Rapid price decline



This happened just as China went manufacturing crazy. The resulting oversupply combined with improved manufacturing efficiency to dramatically reduce the price of solar panels...



...which led to a collapse in solar stock prices.

By mid-2012, solar stocks had declined an average of 80%...

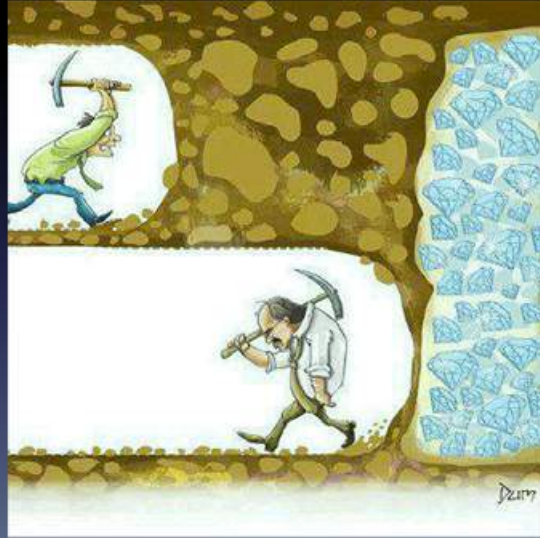
Solar is dead



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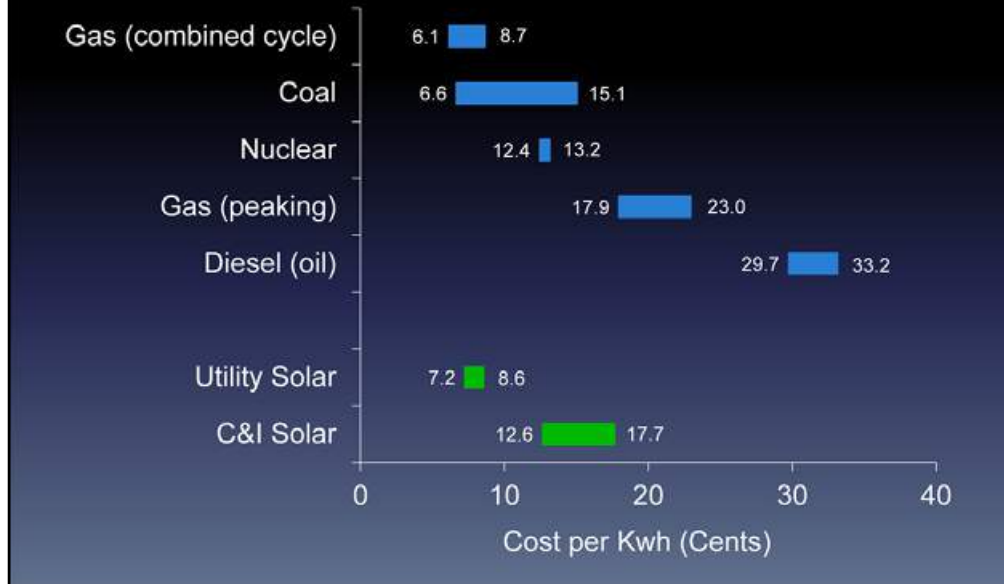
...causing the naysayers to say that without generous subsidies, solar as an industry, as epitomized in the U.S. by Solyndra's failure, was dead again.

Long live solar



This happened just as solar was on the brink of becoming an economically viable means of producing electricity.

Solar is competitive: 2014

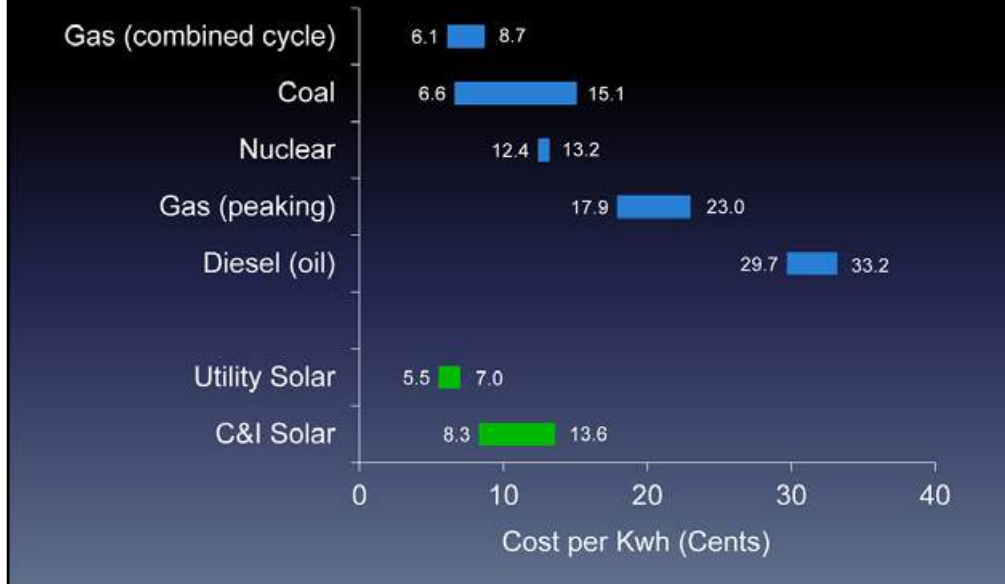


The cheaper solar panels have made solar competitive with traditional forms of electricity, even in markets without subsidies.

Solar stocks have fallen over the last few weeks. We believe it's related to the recent drop in oil prices.

However, oil is used mostly in transportation, rather than electricity generation. You can see that even a significant decline in oil prices would still leave it uncompetitive as a source of electricity. We think that the sell-off in solar stocks in response to falling crude oil is unjustified and creates a good buying opportunity.

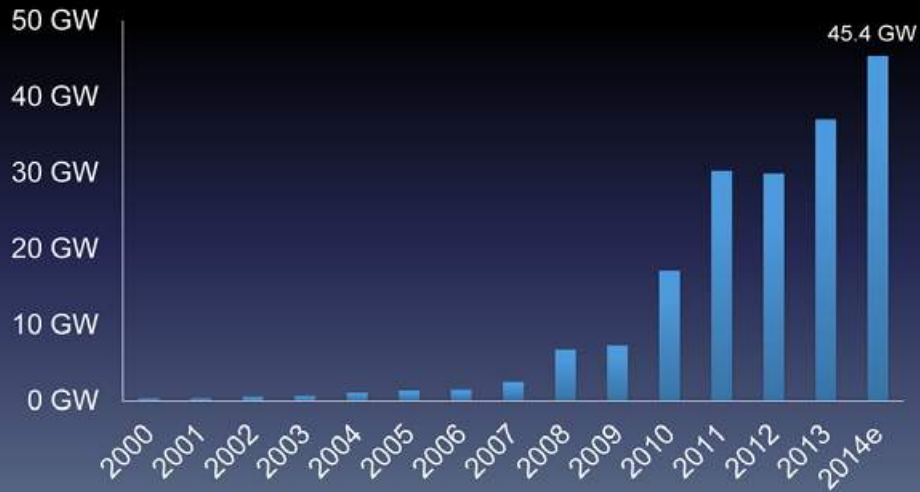
Solar more competitive: 2017



Solar cells become continually cheaper because they benefit from semiconductor innovation. The industry expects solar costs to decline another 20% by 2017.

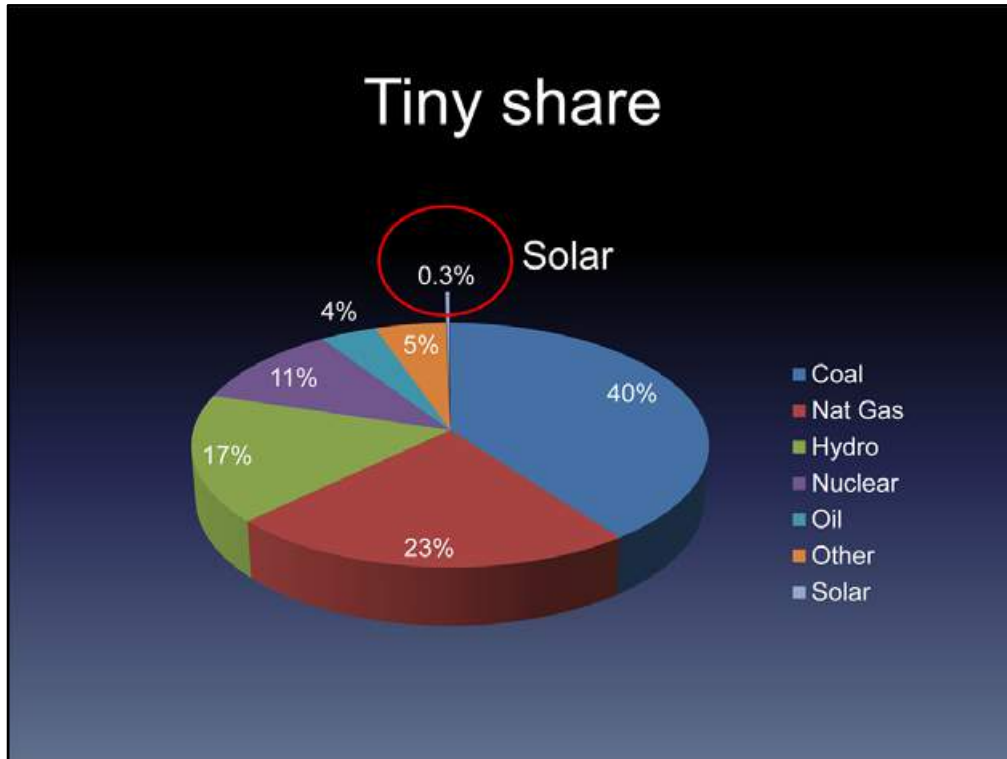
Massive growth

Solar Module Installations (in Gigawatts)

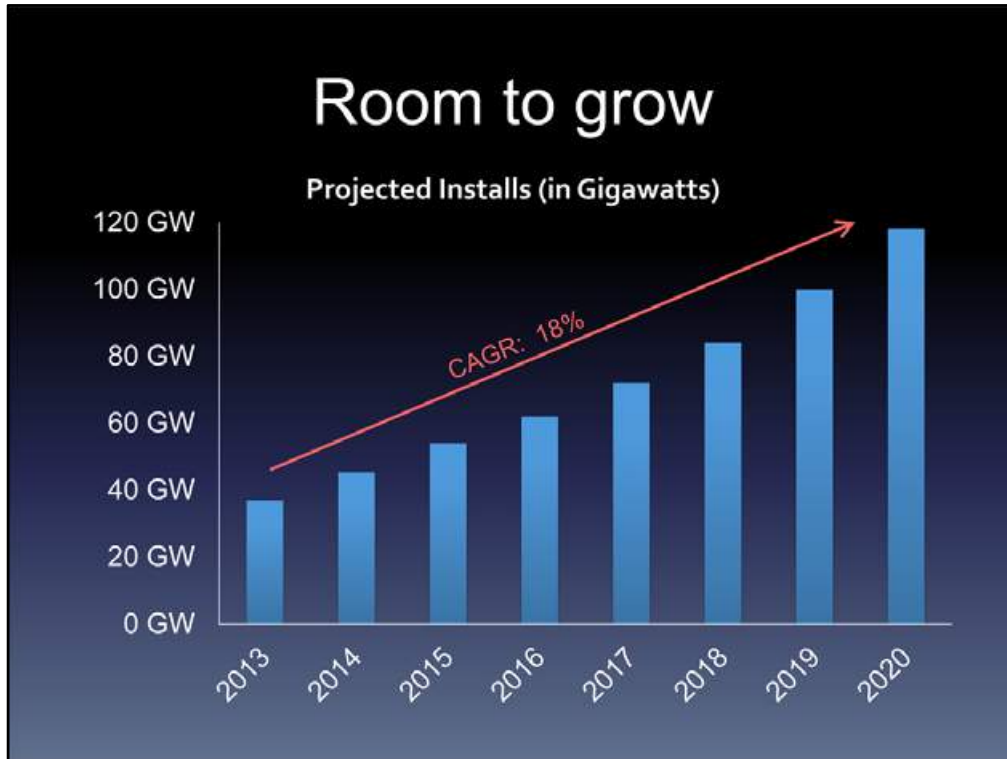


Annual global solar installations have grown from just 2 gigawatts in 2006 to over 45 gigawatts this year.

More than half of all new electricity capacity added in the U.S. this year will be solar.



And yet, solar is still only a fraction of a percent of global electricity production.



Obviously, it's got some room to grow...

SunEdison (SUNE)



Which brings us to SunEdison, our first investment idea today.

SunEdison is a well-run, financially savvy company, benefiting from an open ended growth opportunity trading at a bargain price.

SUNE transformation



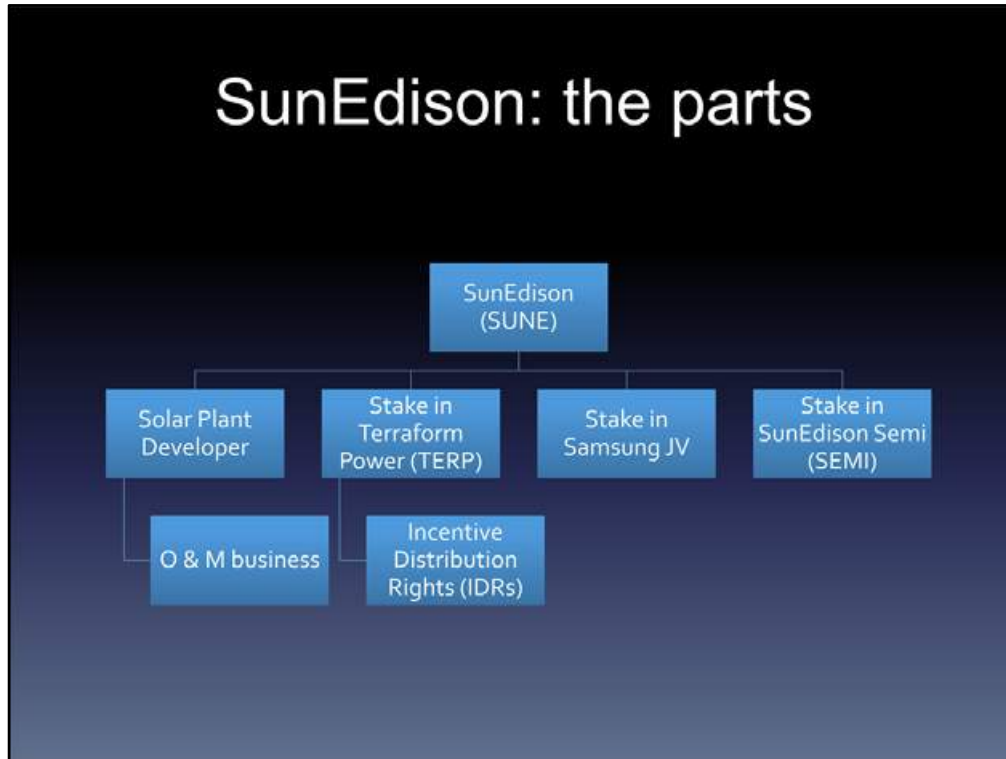
In 2009 MEMC figured out that its core business of manufacturing solar products in the U.S. would not remain profitable in the face of Chinese competition.

It acquired SunEdison and spun off its old business units.

MEMC completed its transformation – it is almost exclusively a developer of solar projects and has changed its name to SunEdison, or SUNE.

Recently, it sponsored a new, public company called Terraform Power that enables SUNE to capture more value from its solar developments.

SunEdison: the parts



SUNE consists of 4 main parts:

First is the core solar plant developer, which also has a growing Operations and Maintenance service business.

Second is its 64% stake in publicly traded Terraform Power, and the related Incentive Distribution Rights or “IDRs,” where SUNE gets paid a portion of Terraform’s future cash flow.

Third is its 50% stake in a poly-silicon manufacturing joint venture with Samsung.

And, fourth is its 58% stake in publicly traded SunEdison Semiconductor.

Misunderstood



We believe the market misunderstands SunEdison.

The financial statements are complicated because they consolidate the company's interests in several public companies, and the non-recourse debt of various solar projects that SUNE controls.

This makes it challenging to decipher the economic value of the company from a cursory review of the balance sheet or income statement. We believe this leads to sell-side analysts mis-analyzing the company, and the market undervaluing the stock.

We think the best way to evaluate SUNE is the sum of its parts.

Development cycle



Let's start with SUNE's core development business.

As a quick overview, SUNE's project cycle looks like this:

First it finds the best development opportunities, then it acquires the land or rooftops and secures all necessary permits to build the plant.

Find a buyer, raise \$\$\$



Then it finds a business or a utility to buy the electricity, usually for a 20 year term. This contract is called a Power Purchase Agreement, or PPA.

With a PPA in hand, it secures financing and constructs the power plant.

Until SUNE sponsored Terraform, it would usually sell the project to a third party financial buyer.

Commercial and industrial customers



Most other solar companies focus on large utility-scale projects where they compete directly with other wholesale sources of electricity.

SUNE focuses on smaller commercial or industrial customers like a Home Depot or an airport that otherwise buy electricity from utilities at retail prices.

By competing against retail rather than wholesale power prices, SUNE's projects generate attractive margins and returns.

Developer economics

SUNE's Economics

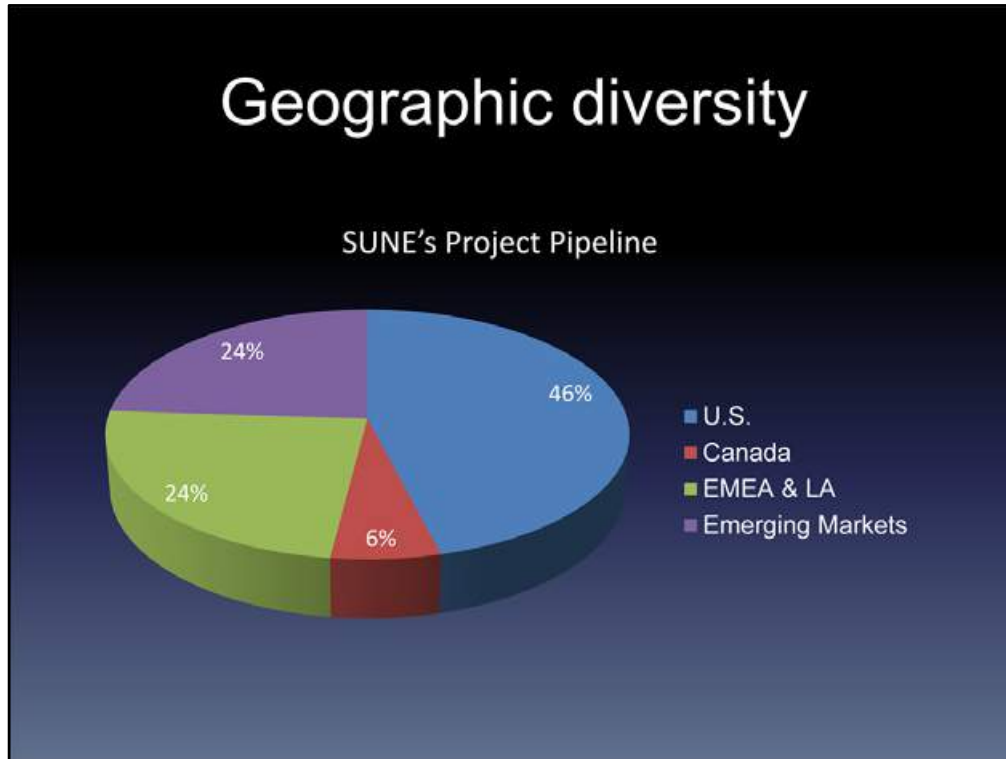
SUNE Project Cost per Watt	\$	2.20
Price Paid by Buyer for Project	\$	2.75
SUNE's Development Gross Margin		20%

Buyer's Economics

Purchase Price	\$	2.75
Cost of Debt		6%
Debt/Equity		65%/35%
Buyer's Return on Equity		10.6%

SUNE earns a healthy margin of about \$0.55 per watt for developing the project, and the third party buyer earns a reasonable return on its capital.

Geographic diversity



As an experienced project developer, SUNE's financial, legal, and due diligence expertise gives it a competitive moat.

It has opened offices in the most attractive international markets several years before anyone else, giving it a first mover edge and unique geographic diversity in an industry that faces capricious governments, currency fluctuations, sovereign risk and competition.

Growth ahead

	2012	2013	2014e	2015e	2016e
SUNE Volume (in MW)	430	542	1,075	1,500	2,000
SUNE Market Share	1.4%	1.4%	2.3%	2.8%	3.2%

SUNE has a 2.3% share of the solar market. It has guided to doubling production in the next two years, which would give it a rapidly growing share in a rapidly growing market.

Development business

2016 Pro Forma Model	
Estimated 2016 Project Volume (MW)	2,000
Estimated Gross Profit/Watt	\$ 0.50
Implied EBIT	\$ 550
Implied after-tax EPS	\$ 1.00
Multiple	15.0x
Fair Value for the Development Business	\$ 15.00

To value the development business, let's look at 2016 when SUNE has guided to building 2 gigawatts of projects. As a developer, it earns \$0.50 per watt or \$1 billion. After overhead, interest and taxes this implies \$1 in EPS.

Since we think the development business will continue to grow at a healthy rate, we think it's conservative to value it at 15 times or \$15 per share, which is almost where all of SunEdison trades today.

Terraform Power (TERP)



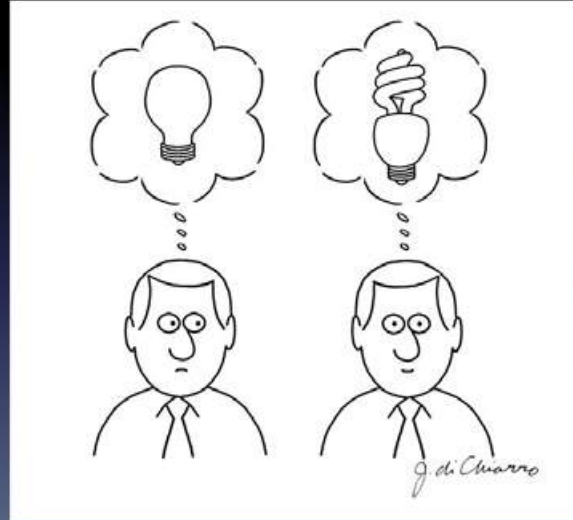
SUNE also owns 64% of Terraform Power, which is worth \$4.54 per SUNE share at Friday's price.

Terraform is a buyer and owner of renewable energy projects.

Terraform pays out 85% of its cash flow as dividends.

Investors value Terraform as a yieldco, rewarding it with a high valuation and corresponding low cost of capital.

A bright idea



Creating Terraform has allowed SUNE to take a good business and turn it into a better business.

In the old days, SUNE used to take all the risk – development risk, financing risk, legal risk, and balance sheet risk – for a modest return. Now it has a lot less risk, and at the same time gets to keep a lot more of the economic value of its projects.

Terraform also gives SUNE a low cost of capital buyer which will allow it to retain more of the value embedded in the projects it creates.

A better market



"Oh!...your people are my people?
Well, that should make things a lot simpler."

Terraform purchased its initial portfolio of projects from SUNE and we expect it to be a buyer of future SUNE projects.

The cartoon says, "Oh!... your people are my people? Well, that should make things a lot simpler."

Lower cost of capital

	Financial Buyer	TERP Buyer	TERP Benefit
Cost of Debt (65% of capital)	6.0%	6.0%	0.0%
Cost of Equity (35% of capital)	12.0%	5.6%	6.4%
Weighted Average Cost of Capital	8.1%	5.9%	2.2%
Price paid to achieve WACC	\$ 2.62	\$ 3.12	\$ 0.50

Terraform is a particularly attractive buyer because it brings a low cost of capital compared to traditional financial buyers. We estimate the difference to be 2.2%, which translates into \$0.50 per watt of additional value to be divided up between SUNE, Terraform, and the energy customer.

But wait... there's more

IDR Triggers	Increase Over Initial	Quarterly Distribution	IDR Cash Flow
Initial Dividend		\$ 0.226	
First IDR Trigger	50%	\$ 0.339	15%
Second IDR Trigger	75%	\$ 0.395	25%
Third IDR Trigger	100%	\$ 0.451	50%

SUNE also owns incentive distribution rights, or IDRs, in Terraform.

An IDR is a share of the profits of Terraform where SUNE's share increases as Terraform grows its dividend.

Initially the IDR doesn't pay SUNE anything. But once the dividend grows 50%, SUNE begins to collect, and once it doubles, SUNE collects half of the incremental cash flow.

Modeling IDRs

	2015	2016	2017	2018
TERP Projects (MW)	2,323	4,483	7,003	9,973
Total Distributions per TERP share	\$ 1.25	\$ 1.69	\$ 2.07	\$ 2.32
IDR thresholds triggered	1	3	3	3
Cash Flows to SUNE IDR (\$ M)	\$ 0.2	\$ 13.5	\$ 60.2	\$ 108.5
<i>per SUNE share</i>	<i>\$ 0.00</i>	<i>\$ 0.04</i>	<i>\$ 0.17</i>	<i>\$ 0.31</i>

We estimate Terraform will grow to 10 gigawatts in 2018, creating \$109 million in IDR payments or \$0.31 per share to SunEdison.

IDR value

IDR DCF Value	
Discount Rate	10%
Terminal Multiple (2022)	15.0x
NPV	\$ 3,208
Value per SUNE share	\$ 9.04

On a DCF basis, we calculate the IDRs to be worth \$3.2 billion, or \$9.04 per share to SUNE. We think this is roughly 9 dollars per share more than the value being assigned by most street analysts.

Indiscriminate sell-offs



In the recent sell-off, Terraform's shares declined with the oil and gas MLPs.

Because most MLPs pay out cash flows from depleting oil and gas reserves that need to be replaced with new wells, these companies need continued access to cheap capital just to sustain their dividends.

Terraform doesn't face that risk because solar assets don't deplete. So Terraform will only raise capital for growth.

Summing up SUNE

SUNE Sum Of The Parts

Development Company	\$ 15.00
TERP Shares	4.54
SUNE IDR in TERP	9.04
Samsung JV stake	2.03
SEMI Shares	1.12
Total	\$ 31.73

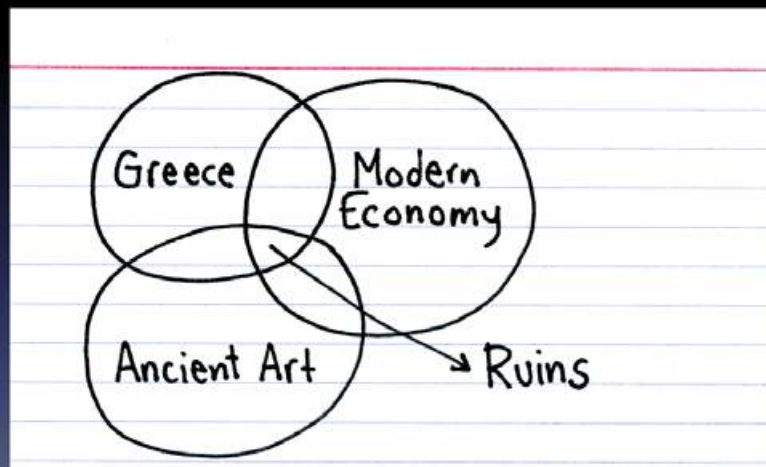
As we sum up the parts:

SunEdison's core development business is worth \$15 per share, the Terraform stake is worth \$4.50, the IDRs are worth around \$9 and a couple other assets are worth another \$3. This sums to about \$32 per share, which is a good distance from where the stock is trading.



Let's go from solar stocks to sunny climates...

Greece is the word



Greece is a small country with only 11 million people that has generated a lot of global news. And unless you go for vacation or to study Ancient History, most of the recent Greek experience has been tragic.