Attractive Returns: Where and Why Now?

resourcient
Costs Declining, Deployment Increasing

As costs of wind, solar and energy storage decline precipitously...

The rate of deployment of wind, solar, batteries and electric vehicles all show exponential levels of growth
Are You Still Stuck in Old Energy?

SunPower, SolarCity, SunEdison and Tesla

Coal, Oil and Fracking ETFs
THE INNOVATION CURVES:
How new fundamental technologies happen
and how they capture market share
THE AUTOMOBILE:
A: 35 years
B: 250 companies
C: 1912
D: 48 (happened in 1950, but would have been 28 without Great depression and World War II)

D: Number of years from 1% to 70% penetration of target market

A: Number of Years, start – peak - trough

B: Number of Companies, at peak

C: 1% penetration of target market
THE PERSONAL COMPUTER:

A: 20 years
B: 200 companies
C: 1986
D: 17 years (happened in 2003)
SOLAR PHOTOVOLTAICS:

A: 24 years
B: ~200 companies
C: 2014
D: too early to tell but current growth rates would suggest about 25 years

D: Number of years from 1% to 70% penetration of target market

A: Number of Years, start – peak - trough
B: Number of Companies, at peak
C: 1% penetration of target market

1990       YEARS       2014       2039?
POWER STORAGE:
A: ~30 years?
B: ~100 companies
C: ~2020?
WHERE ARE WE TODAY?

BIOFUELS:
A: ~30 years?
B: ~75 companies
C: ~2020?
WHERE ARE WE TODAY?

D: Number of years from 1% to 70% penetration of target market
### Important Historical Parallels

<table>
<thead>
<tr>
<th>Transformative Invention</th>
<th>Consumer Product</th>
<th>Power/InfoStorage</th>
<th>Leverages Network</th>
<th>Applications &amp; Solutions</th>
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</thead>
<tbody>
<tr>
<td><strong>“Personal Mobility”</strong></td>
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<td><strong>Automobiles</strong></td>
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<td>Shift from train to personal transportation</td>
<td>Grew industry of financing models, applications, solutions and components</td>
<td>Value dramatically increased by the “network” – roads and highways</td>
<td>Developed its own version of storage – the gas station</td>
<td>Its “features and functions” continue to be greatly enhanced by the IT revolution</td>
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| **“Personal Technology”** |                  |                   |                   |                         |
| **the PC**                |                  |                   |                   |                         |
| Shift from enterprise to “personal” computing | Grew industry of software applications and new business solutions | Massive industry around information storage | Value dramatically increased through Ethernet, then Internet network | Spawned an entire new industry of software tools, applications and “big data” |

| **“Personal Energy”**     |                  |                   |                   |                         |
| **Solar PV**              |                  |                   |                   |                         |
| Enables shift from utility-scale to corporate and personal energy solutions | Growing industry of financial innovations, applications and solutions | Value increasing through network demand response, time shifting and storage | Will spur the development of a large storage industry, perhaps in concert with EV’s | Spawning an entire industry of linked in home appliances and software tools |
The “Project Finance Area” which remains more challenging for first factory and not yet bankable products, but is providing significant liquidity for more mature and later stage bankable products/companies – RATES OF RETURN DROP RAPIDLY AS PERCEIVED RISK IS REDUCED

This is where Tesla and Nest Labs succeeded with product solutions that leveraged others hardware – LIMITED REWARDS FOR EARLY INVESTING

This Uber, SolarCity, Airbnb and other “capital light” solutions – SIGNIFICANT REWARDS FOR EARLY INVESTING

The area of Hardest Lifting that Remains Challenged from a Financing Perspective, it is the path that SunPower and first Solar made it through, but many other struggle to survive in a much leaner financing environment – NO REWARD FOR EARLY INVESTMENTS

Companies getting to this stage are attractive long-term holdings
Targeted Returns and typical returns to Date

(Expectations and Experiences have failed to line up)

- **Targeted IRR of 30%+ with potential of 10X return**
- **Average Actual Return is negative**
- **Targeted IRR of 20% + with potential of 10X return**
- **Limited sample size but good returns**
- **Targeted IRR of 15%+ with potential of 3X return**
- **Limited sample size but best returns so far from companies that have made it here**

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**Interesting Development: Company possibilities**

- **Targeted yield of 15-18%**
- **Actual yield of 0-18%**
- **Targeted yield of 10-15%**
- **Actual yield of 6-10%**
- **Targeted yield of 8-10%**
- **Actual yield of 4-6%**

**Actual yield of 0-18%**