The Long Boom 2
The Long Boom²
The Long Boom²
The Positive & Plausible Way Forward That Could Reach a New Utopia by 2050
By Peter Leyden
We’re facing 25 years of prosperity, freedom, and a better environment for the whole world. You got a problem with that?
The explosive growth of the web and the dramatic expansion of the Internet.

Source: Statista
The Rise of Apple

From Visionary Startup to the Most Valuable Company in the World

Source: The Verge & YCharts
Apple’s Platform Spreads the Wealth

Developers have earned $120B through the App Store

Since the App Store launched in July 2008, iOS app developers have earned over $120 billion.

Source: Statista
The Rise of Amazon

Amazon annual revenue and net income from nothing to a quarter trillion dollars

Source: TK
Third party sellers are now outselling Amazon on Amazon

Source: TK
Top 5 companies in the World in 2001

The commanding heights looked like the American economy of the 20th century

- GE: $406B
- Microsoft: $365B
- ExxonMobil: $272B
- Citi: $261B
- Walmart: $260B

Source: Visual Capitalist
Top 5 companies in the World in 2019

The commanding heights looked like the American high-tech economy of the 21st century

Microsoft: $1052 B
Apple: $943 B
Amazon: $878 B
Alphabet: $824 B
Facebook: $529 B

Source: Visual Capitalist
China Rises to Second Largest Economy in World

China goes from minor economic player to the second superpower in 25 years

The gap between the GDPs of China and the US kept increasing until 2006, when it reached its maximum. From then on, the gap is reducing.
The exponential growth of eight of China’s most dynamic cities

Source: TK
And a Stock Market Boom as Well
A 20 TIMES GAIN IN THE STOCK MARKET

DOW JONES INDUSTRIAL AVERAGE
WIRED@25

For 25 years, technology has turned the world upside down and inside out. Now the icons of the digital revolution tell us who will shake up the next 25.

Mark Zuckerberg Jaron Lanier Fel-Fel Li Jennifer Pahlka Edward Snowden Peter Thiel Jony Ive Susan Wojcicki Bill Gates and 41 more

1993
FAST FORWARD
2043

Wired 25th Anniversary
The Reporting Outreach to World Class Experts

Getting insights into the positive driving forces and potential developments for 30 years

Kevin Kelly
Jane McGonigal
Ramez Naam
Mariana Mazzucato
Tim O"Reilly
Steven Pinker
Jen Pahlka
John Battelle
Julie Hanna
Saul Griffith
The Forest for the Trees
The Forest for the Trees
The clear story of the technologies, economics and politics of the 1940 to 1980 Era

The Post-War Industrial Era

- WW2 Ends
- American Boom
- Free World Boom
- Oil Shocks
The clear story of the technologies, economics and politics of the 1940 to 1980 Era
The Long View of History

We see the era in simple clear terms from the vantage point of today
The Big Picture, Long-term Positive Story
The individuals of the world are getting more prosperous and the trend is clear.
Since the 1980s we’ve gone from almost half the world to 10 percent extremely poor.
Since the carnage of World War II and Cold War battles - few soldiers now die

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Steven Pinker in *Enlightenment Now*
Since the 1980s homicides in the U.S. have dropped, as in the world this century.
Accidents: Plane Crashes

Airplanes just keep getting safer and safer - how much safer can they get?

Steven Pinker in Enlightenment Now
Children all around the world are catching up quickly with Western standards.
Our era shows a dramatic expansion of gay rights
Since the end of the Cold War in the 1980s democracy has clearly expanded.
The Long Boom
The Story of the Last Era from 1980 to 2020

The less clear story of the tech, economics & politics of the last four decades

The Digital & Global Era

- PCs
- Internet
- Mobile
- Tech Titans
The Story of the Last Era from 1980 to 2020

The era will be known as an entrepreneurial, pro-business, conservative political era.
The Long Boom²
The Story of the Next Era from 2020 to 2060

The murky story of the technologies, economics and politics of the next 40 years
The Story of the Next Era from 2020 to 2060

Expect an era of sustainable tech, more egalitarian economics & progressive politics
The AI Era of InfoTech Arrives
The Augmentation in All Directions
Insanely Big Data
The Piling up of Big Data on All Information

The doubling phenomenon hits data & the hockey stick ramping begins

The world's data is doubling every 2 years

Now we produce 5 exabytes every 2 days

8,000 BC to 2003 = 5 Exabytes (EB)
The Connection of Everyone on the Planet

Percentage online by region of the world fast follows the West & will connect all

<table>
<thead>
<tr>
<th>Region</th>
<th>% of region online in 2000</th>
<th>% of region online in 2010</th>
<th>% of region online in 2018</th>
<th>% of region online in 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>N America</td>
<td>31,5%</td>
<td>58,4%</td>
<td>85,2%</td>
<td>95%</td>
</tr>
<tr>
<td>Europe</td>
<td>13%</td>
<td>61,3%</td>
<td>68,9%</td>
<td>77,4%</td>
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<tr>
<td>Oceania</td>
<td>22%</td>
<td>34,5%</td>
<td>67%</td>
<td>68,9%</td>
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<tr>
<td>Latin America</td>
<td>3%</td>
<td>1,5%</td>
<td>29,8%</td>
<td>28,7%</td>
</tr>
<tr>
<td>Middle East</td>
<td>3%</td>
<td>48,1%</td>
<td>21,5%</td>
<td>31,5%</td>
</tr>
<tr>
<td>Asia</td>
<td>3%</td>
<td>10,9%</td>
<td>4,5%</td>
<td>13%</td>
</tr>
<tr>
<td>Africa</td>
<td>5%</td>
<td>35,2%</td>
<td>4,5%</td>
<td>5%</td>
</tr>
<tr>
<td>World Total</td>
<td>54,4%</td>
<td></td>
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</tbody>
</table>
Deep Learning & AI as Ubiquitous as Electricity
Simultaneous Language Translation
Design Thinking & the Acceleration of Innovation
The New Way Forward
Flip the Switch
The Climate Change Mega Challenge
This century we've seen 17 of the 18 hottest years on record - and getting worse.
The Impacts Now Obvious to All
The Solar Tipping Point
Solar cells have followed a similar drop in cost and boost in power that silicon chips did.
Solar's plummeting costs projected to continue by Bloomberg New Energy Finance

Solar Should Be Cheaper Than Coal Very Soon
Solar panels start hitting tech economies of scale by 2015 and it continues.
Over 10 percent of the world’s energy now comes from renewables - with much to go
The Electric Car Tipping Point
The Drop in Price for Electric Car Batteries

The Average price of battery packs for electric vehicles in dollar per kWh

<table>
<thead>
<tr>
<th>Year</th>
<th>Price per kWh</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>$1,160</td>
</tr>
<tr>
<td>2011</td>
<td>$899</td>
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<tr>
<td>2012</td>
<td>$707</td>
</tr>
<tr>
<td>2013</td>
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<td>2014</td>
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<td>2015</td>
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<tr>
<td>2016</td>
<td>$288</td>
</tr>
<tr>
<td>2017</td>
<td>$214</td>
</tr>
<tr>
<td>2018</td>
<td>$176</td>
</tr>
</tbody>
</table>

Top 3 concerns about electric vehicles:

- Purchase price: 65%
- Charging infrastructure: 60%
- Immature technology: 45%
Lithium-ion battery storage costs are close to equivalent to internal combustion engines.
Tesla Finally Cracked the Legacy Auto Industry

Number of electric vehicle models available to consumers in North America
Flip the Switch
Genetic Understanding & Engineering
The Human Life Science Front
The Sustainable Food & Materials Front
The Petrochemical Plastic Problem

Global plastic production in million metric tons through our era

Source: TK
Flip the Switch
The Millennial Power Shift
The U.S. Millennial Generation in Context Today

Source: US Census Data 2018
The Millennials & Gen Z Vs. Boomers in 2030

Source: US Census Data 2018
The Millennials & Gen Z Dominant in 2040

Source: US Census Data 2018
The New American Population in 2050

Source: US Census Data 2018
The New Way Forward in Politics
The Political Power Shift
People will see the fundamental changes across all our time as civilizational change.
“The Enlightenment”
Fundamental Reinvention Including Governing
A fundamental break with the past that created a new foundation lasting for centuries
A 21st-Century Foundation for the Future
The Fundamental Shift Between Civilizations

- Carbon Energies
- Industrial Revolution
- Financial Capitalism
- Representative Democracy
- Clean Energies
- Biological Revolution
- Sustainable Capitalism
- Digital Democracy
The Long Boom²
“The Transformation”