

greenchip

Blue Chip Investing in the Green Economy

University of Victoria Presentation

November 14, 2019

Agenda

- Thematic investing in the Great Energy Transition
- Why ESG integration is not enough
- Current thematic opportunities
- Sectors we're less excited about
- Game changers – what we still don't know

Background Beliefs

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1

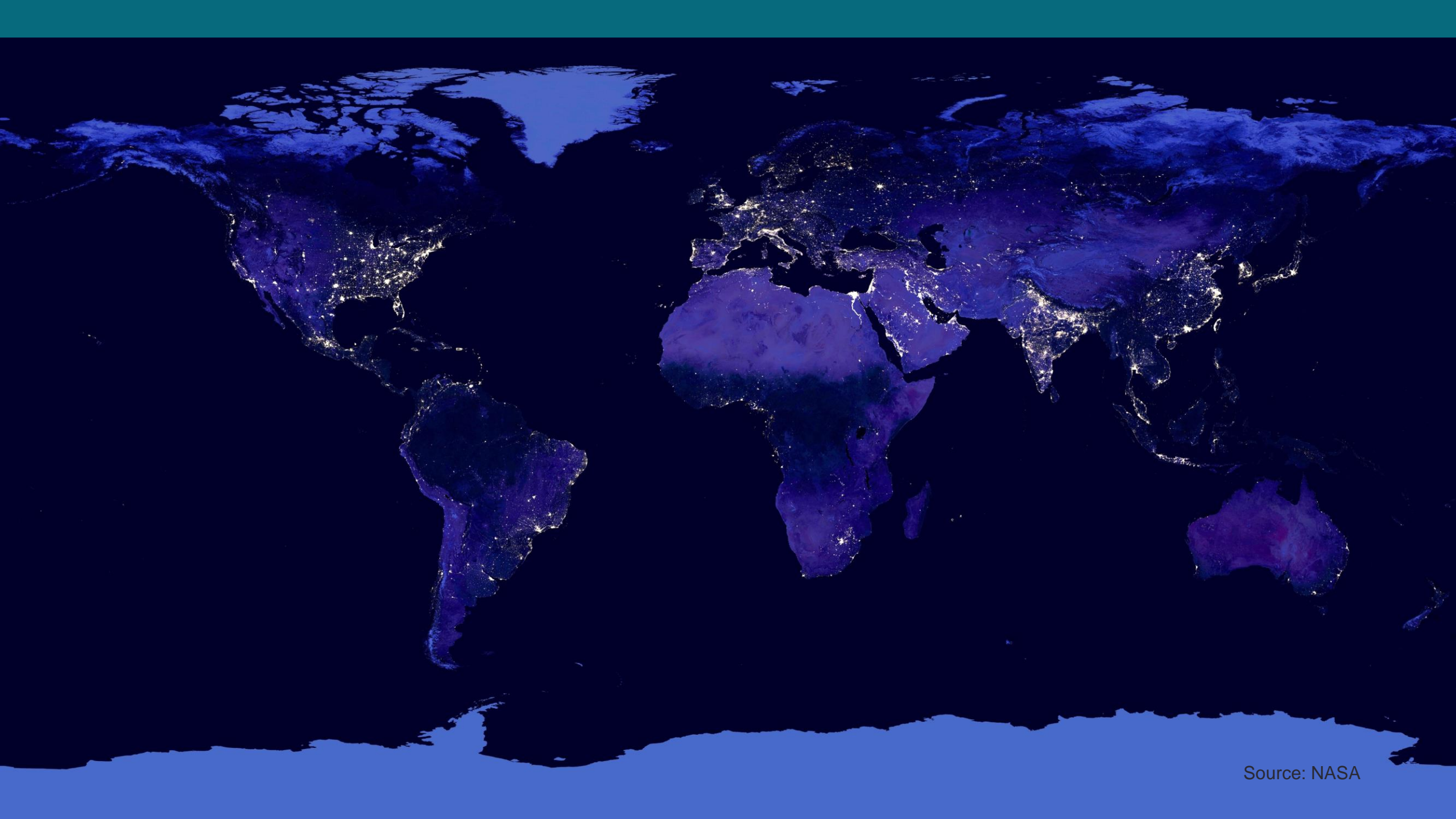
An historic “**Great**”
Energy Transition
is underway, creating
a tailwind behind
environmental sectors
and significant new risks for
unprepared investors

2

Environmental sector
growth, technologies, and
regulatory policies are
often misunderstood and,
as a result, securities may
be mispriced

3

A global perspective, value
strategy and bottom-up
process is optimal for this
space



Source: NASA

What will it take?

“\$2.5 trillion annual investment needed by 2030 to finance a more sustainable future”

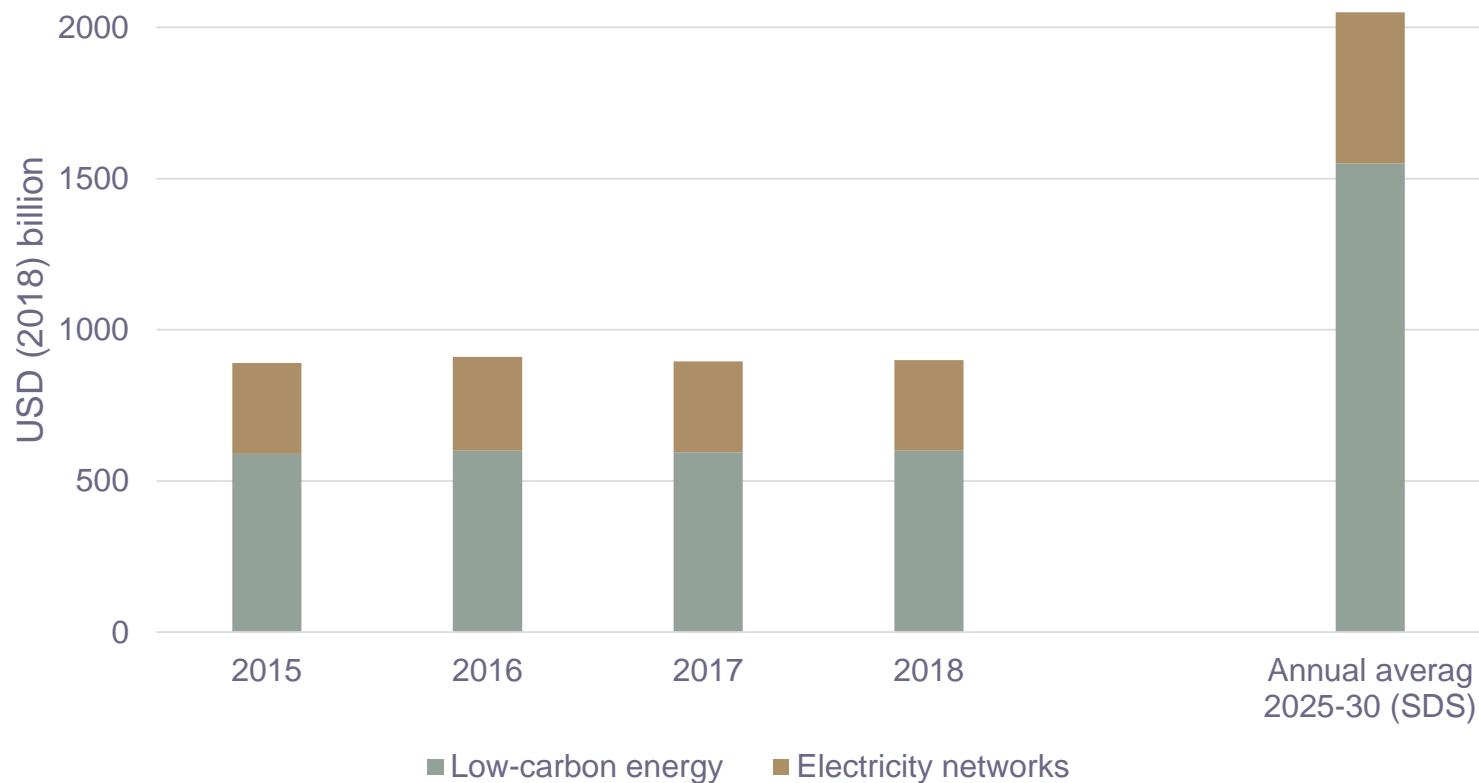
Greg Payne at the 2007 *Greenchip Launch Event*

“\$6.9 trillion infrastructure investment needed annually to meet the Paris Agreement goals”

OECD/The World Bank/UN Environment (2018), *Financing Climate Futures*

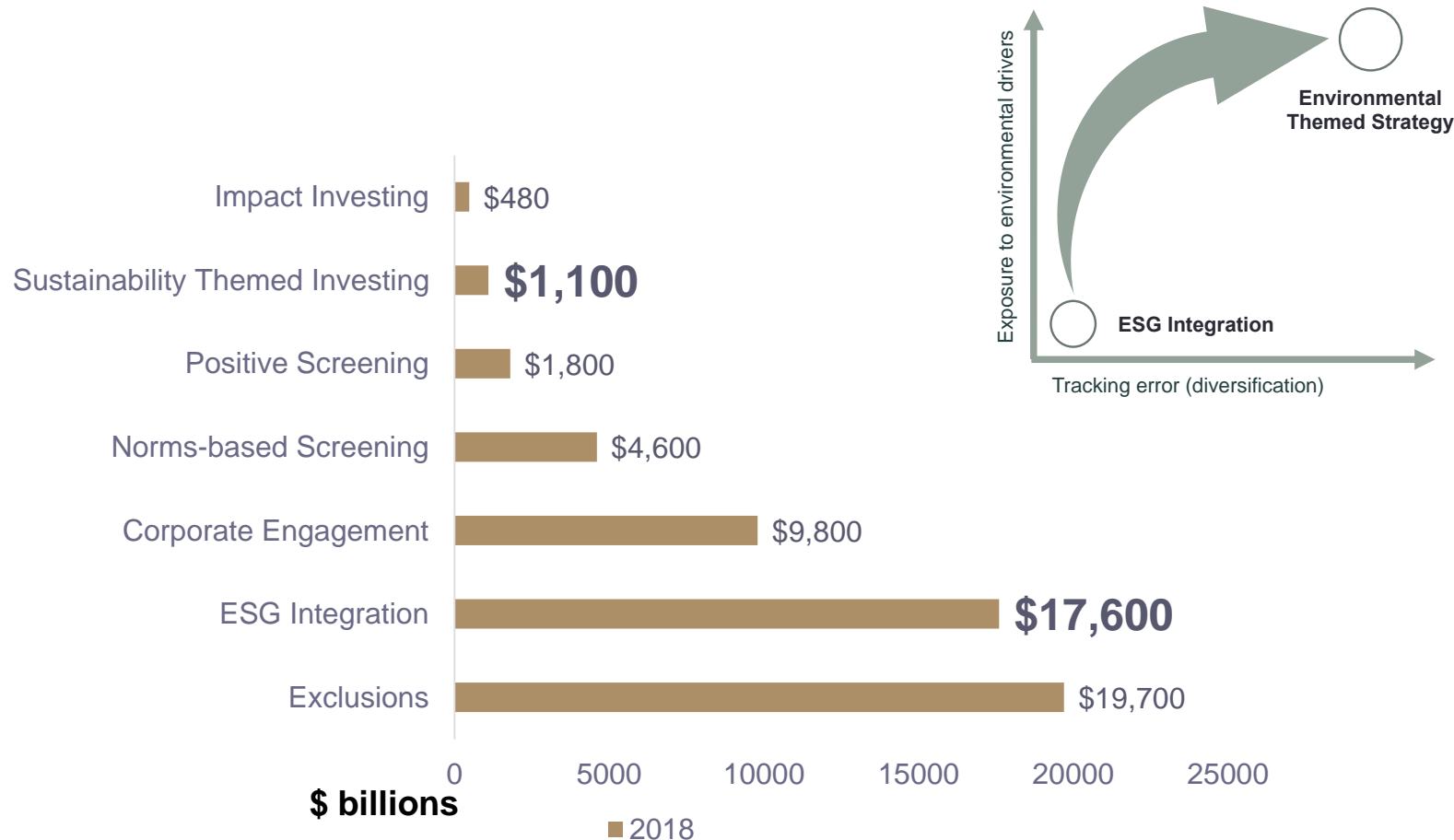
Annual investment across low-carbon energy – including supply and efficiency – needs a rapid boost to \$2.1 trillion to keep Paris in sight

IEA World Energy Investment Report 2019
Global investment in low-carbon energy, efficiency, and electricity networks



Note: Low-carbon energy investment includes energy efficiency, renewable power, renewables for transport and heat, nuclear, battery storage and carbon capture utilisation and storage. SDS = Sustainable Development Scenario.

ESG is insufficient to capture climate opportunities and diversify from climate risk

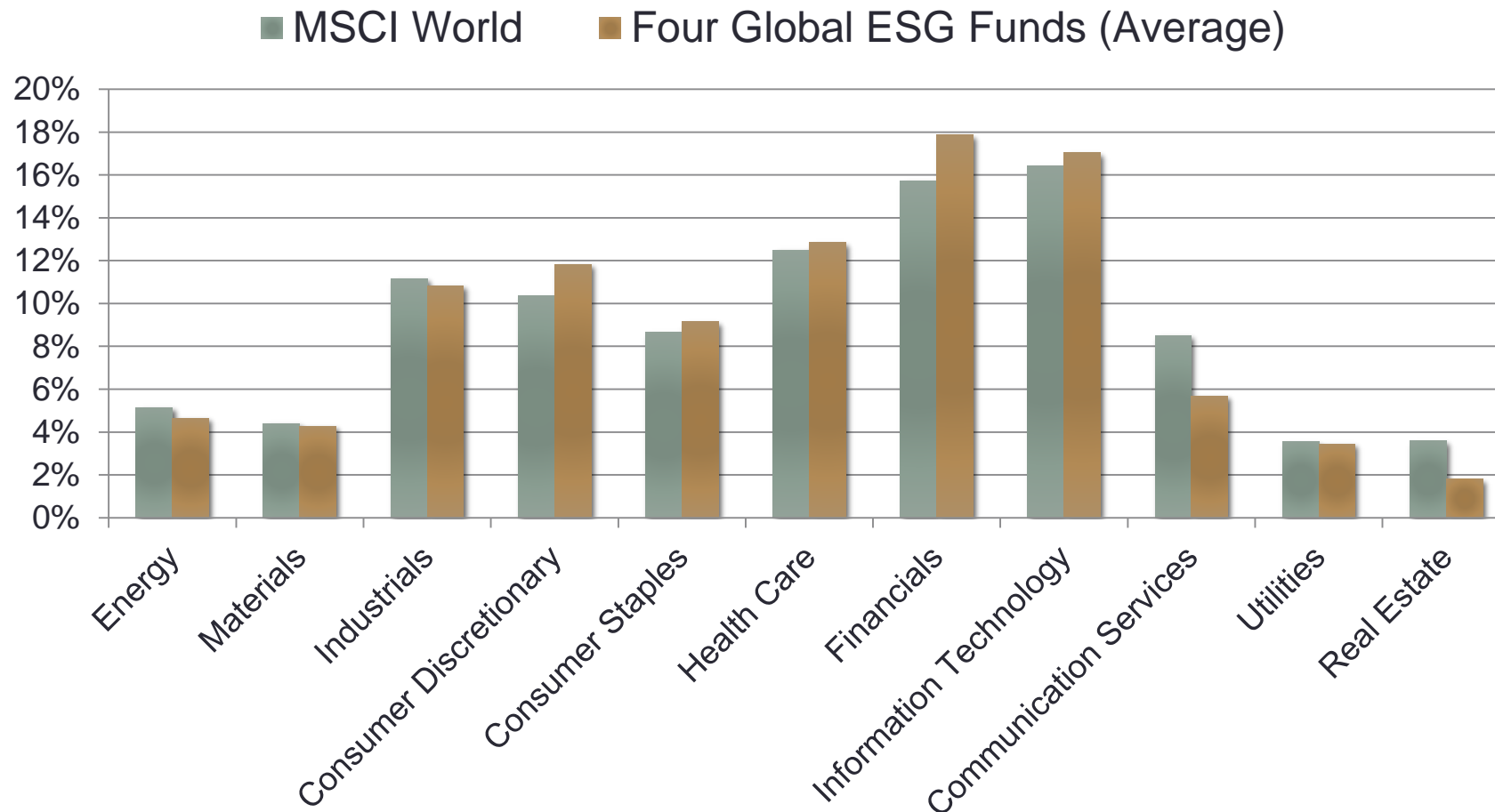


Generally, ESG integration focuses on **how companies behave**, while environmental sector investing focuses on **what companies produce and sell**.

ESG strategies have high correlations to benchmarks and are less exposed to environmental drivers.

Four Global ESG Funds vs. MSCI World

By General Industry Classification (September 30, 2019)

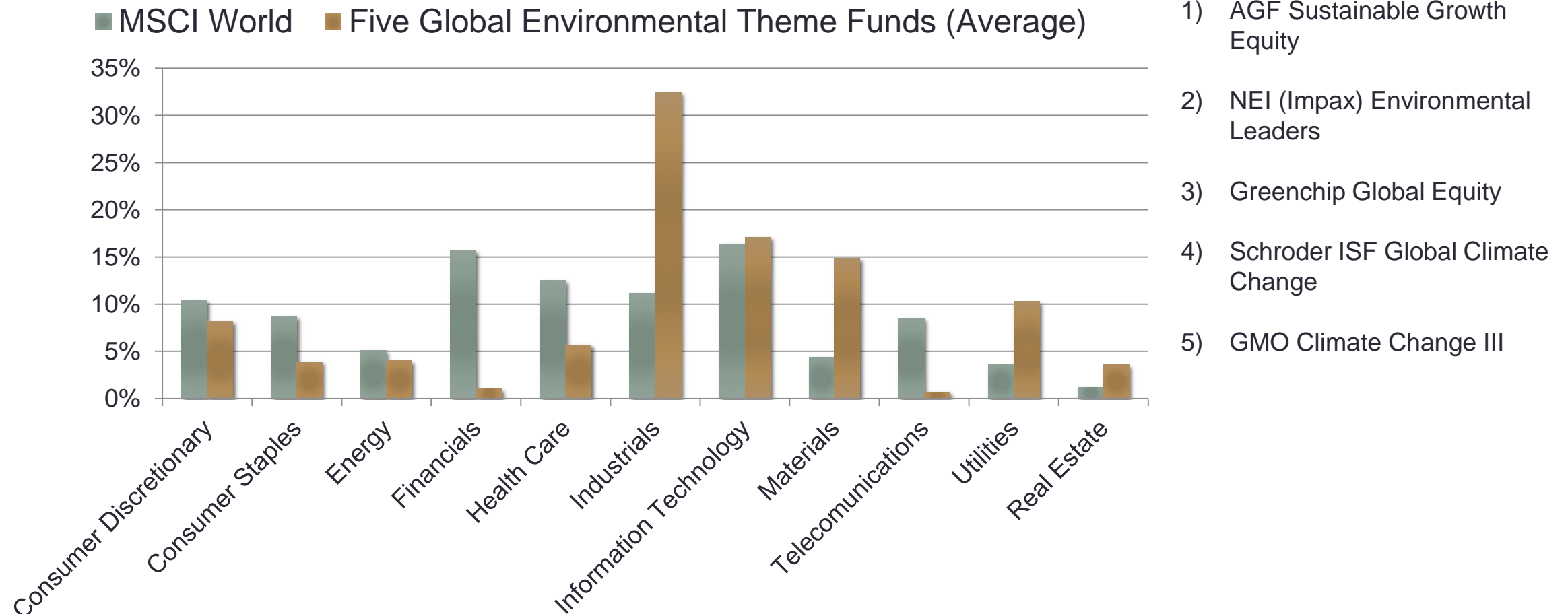


- 1) RBC Vision Global Equity Fund (formerly Jantzi)
- 2) iShares World ESG Screened UCITS ETF
- 3) Fidelity Sustainable World ETF
- 4) Vanguard SRI Global Stock Fund

Source: Morningstar, Corporate websites

Five Environmental Theme Funds vs. MSCI World

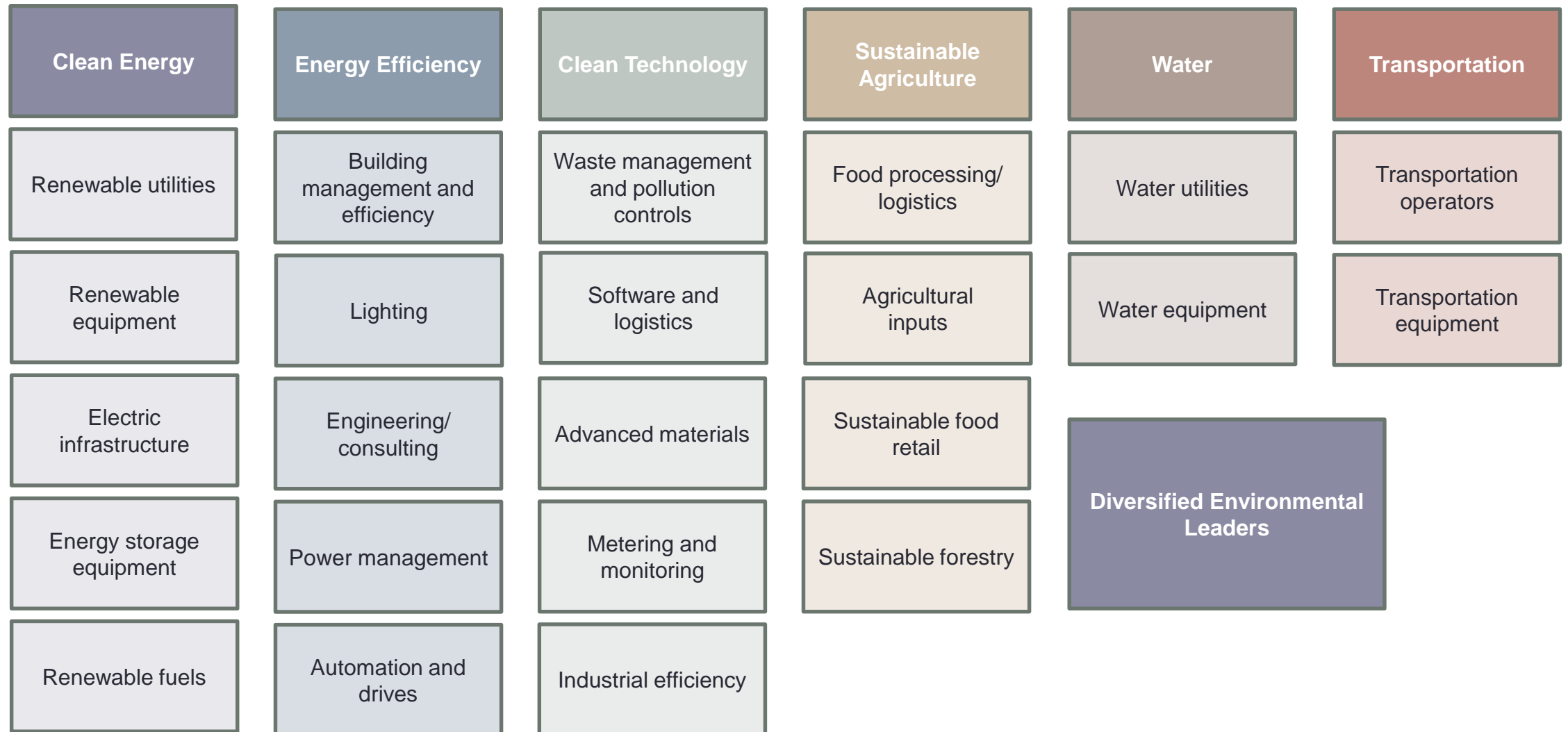
By General Industry Classification (September 30, 2019)



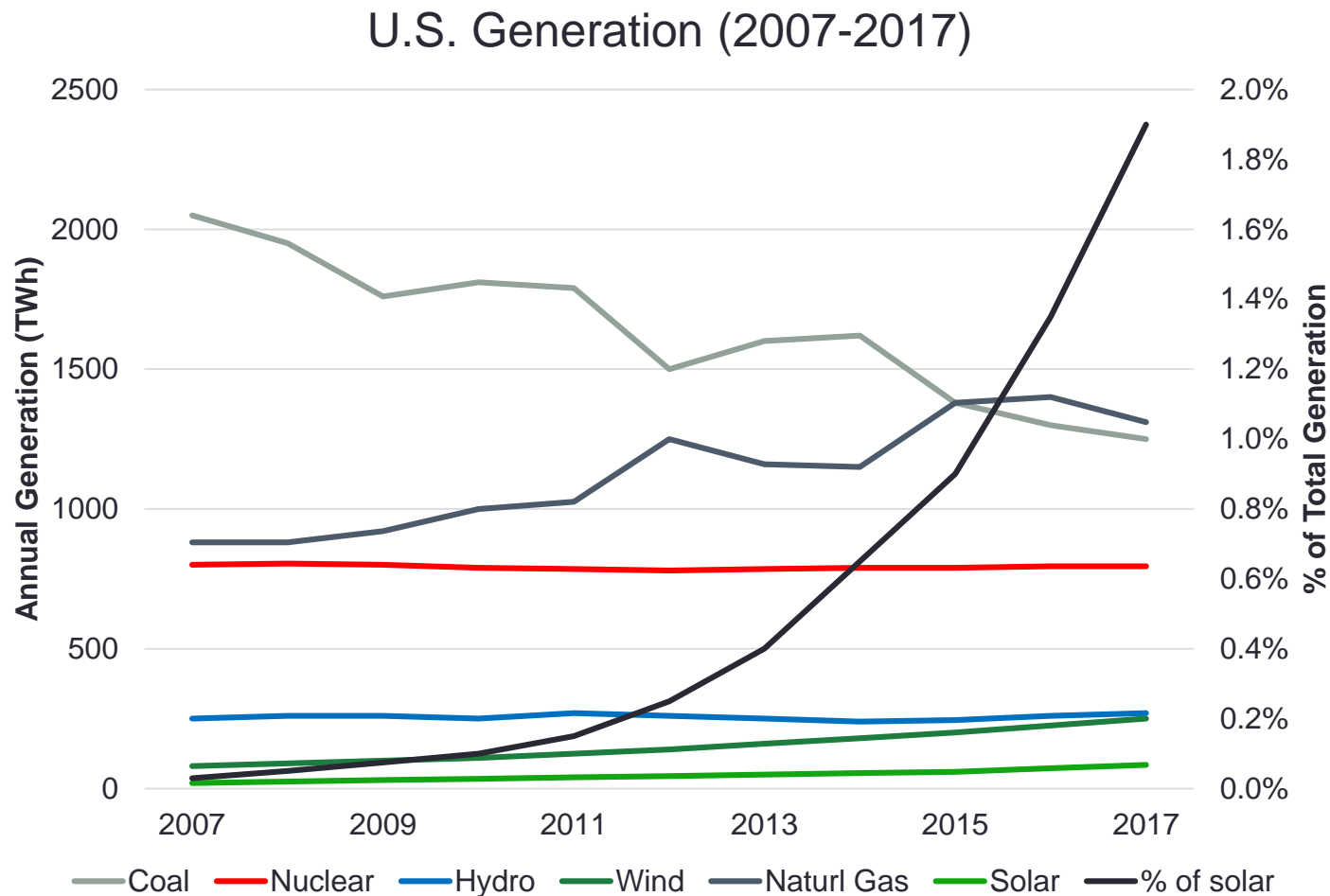
Source: Morningstar, Corporate websites

Environmental Theme Sectors

Over 600 companies with a cumulative \$6 trillion market cap



Energy transition evident in power production



- Coal and natural gas have been heading in opposite directions
- The percentage of electricity generated by fossil fuels has dropped from 72% to 61%, while renewable generation has increased from 8% to 17%
- The percentage of solar generation has increased a whopping 59X since 2007

Renewable Utilities - *clean* outperforms *dirty*

Performance of five of the cleanest power utilities versus five of the dirtiest*

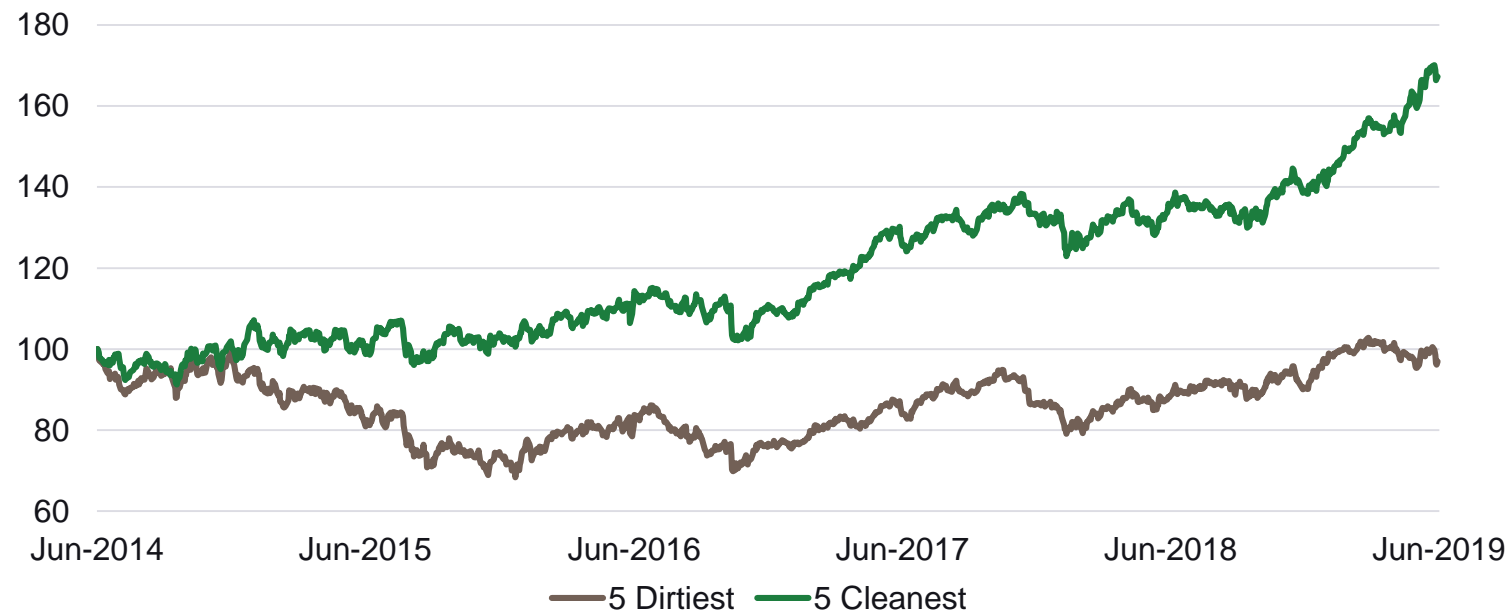


Chart compares

Five of the cleanest power utilities:
Nextera, Consolidated Edison, Iberdrola,
EDP, and ENEL

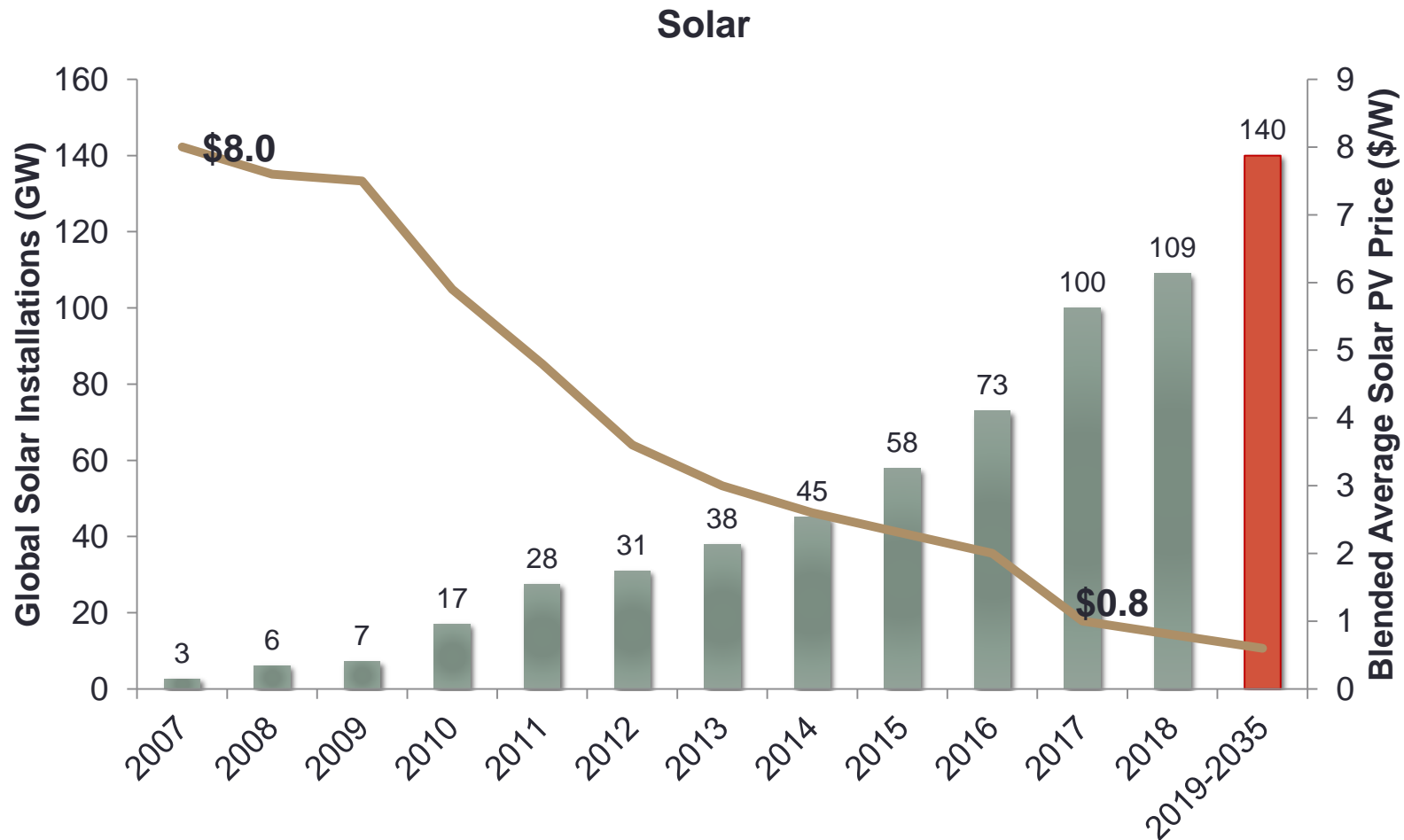
vs.

Five of the dirtiest: NRG, PPL, Exelon,
RWE, and Engie

Source: Bloomberg, June 2014 to June 2019. Stock price performance for each grouping of stocks is market cap weighted based on the current market capitalizations. Return excludes dividends.

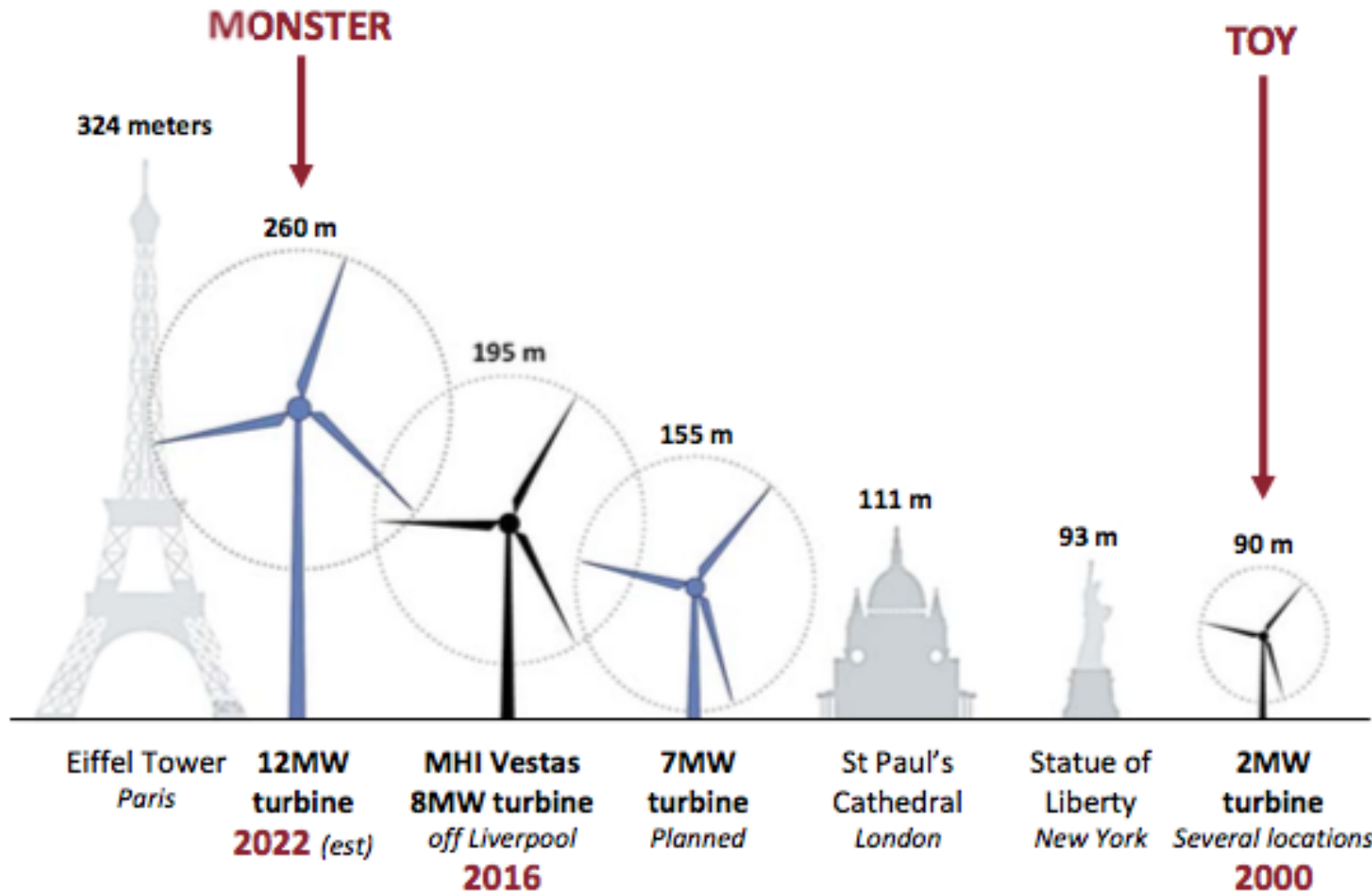
*EDP, ENEL and Iberdrola are leaders in renewable energy development, both in their home markets (Portugal, Italy, and Spain, respectively) and abroad, with EDP and ENEL operating major renewable portfolios in North America and Latin America, respectively. Nextera is a Florida-based utility that is the largest US developer and operator of renewable energy. In general, while the clean group does still have thermal generation, renewable generation is typically equal or higher than thermal, and thermal is more gas than coal. For the dirty group the opposite is the case.

Solar is a misunderstood opportunity



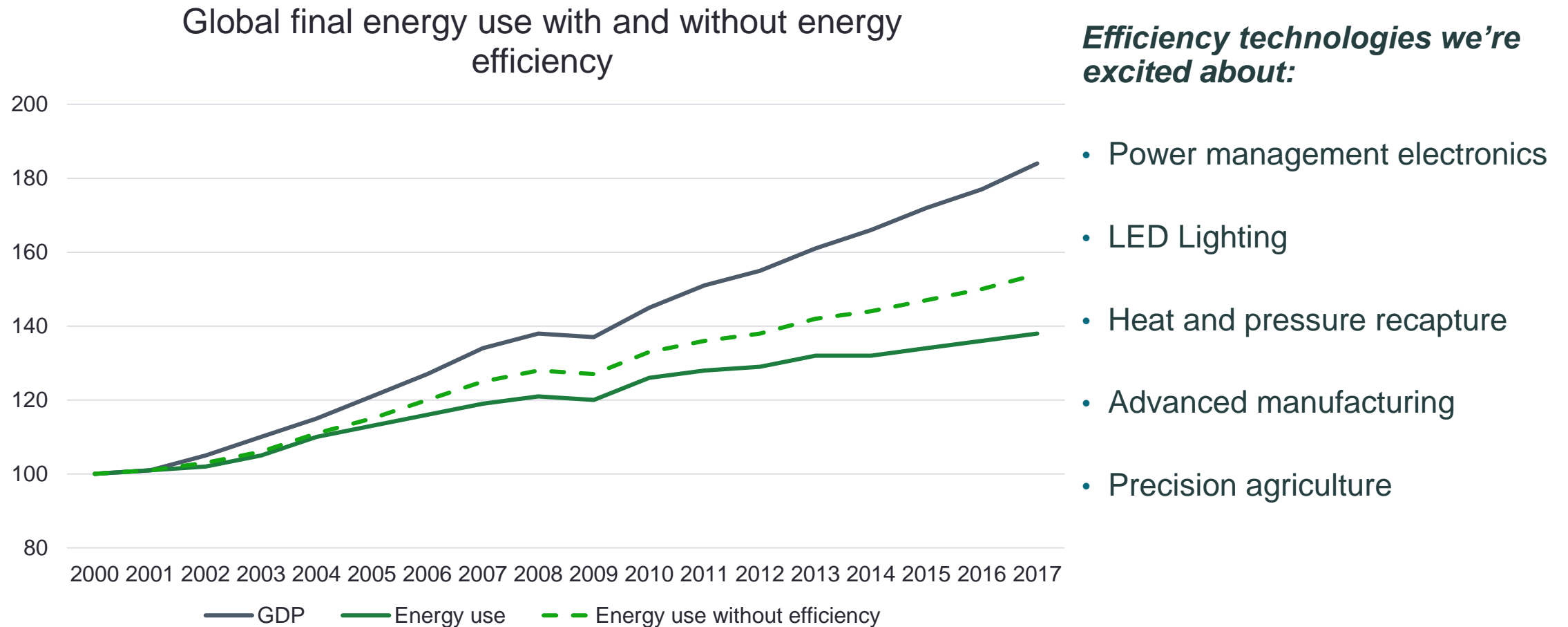
1. Growth is underestimated
2. Misunderstood manufacturing consolidation
3. Value opportunities

Wind may have peaked?

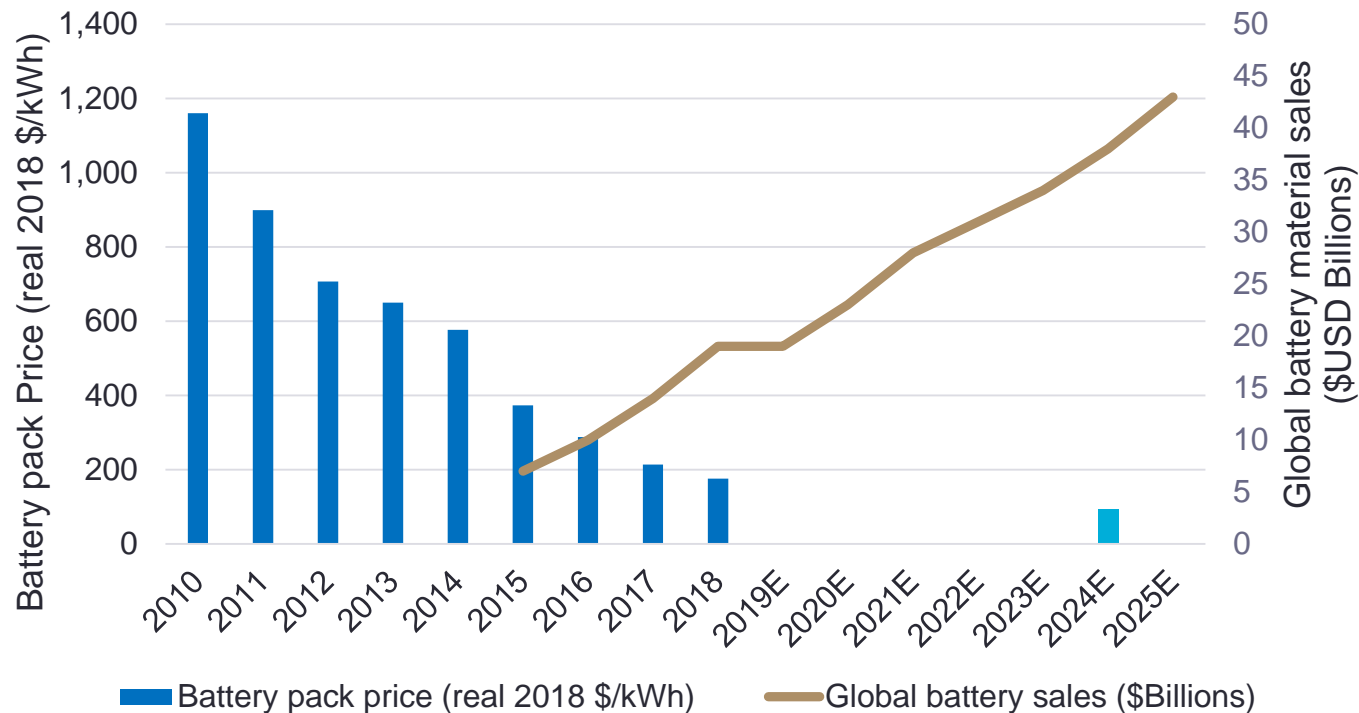


1. Intermittency and operating costs have been underestimated
2. Growth curve has plateaued
3. Cost curve decline has flattened
4. Fewer value opportunities

Energy Efficiency – improving at almost 3% a year



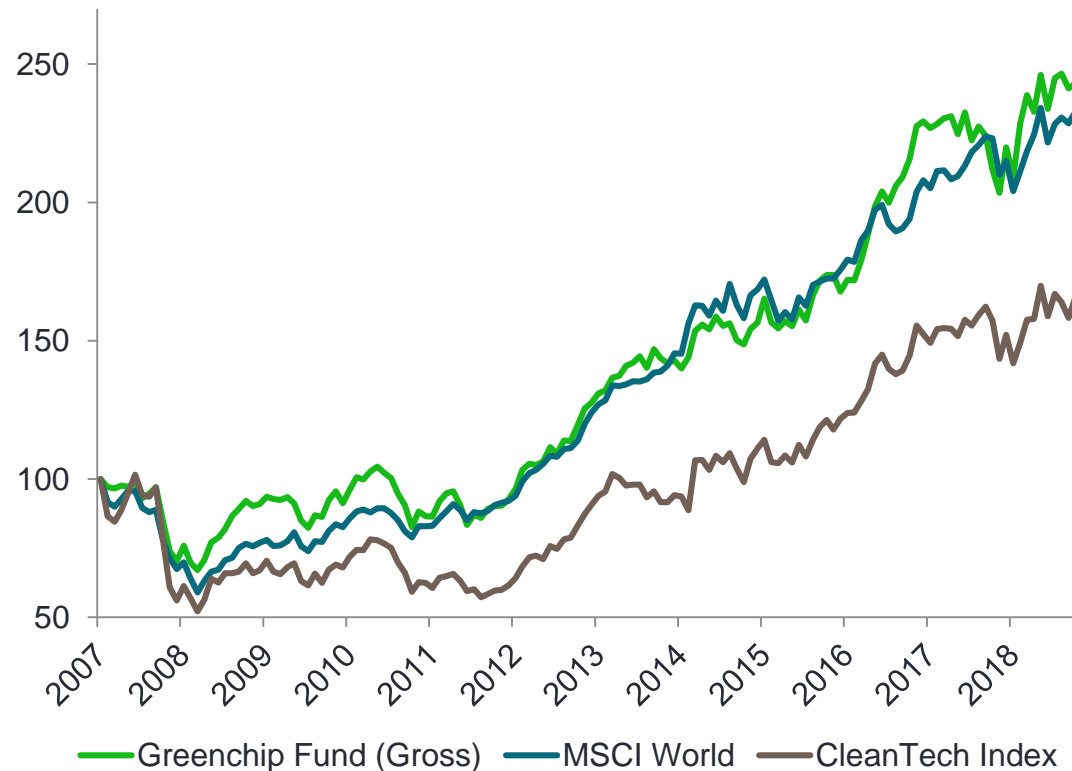
The game changer - Storage - what we don't know yet



Bloomberg estimates that for every doubling of volume history has shown an 18% decline in cost. Based on this they estimate \$94 by 2024 and \$62 by 2030.

Environmental Theme can outperform

**Greenchip (Gross) returns vs. MSCI
World and Cleantech Indexes**
Jan. 2, 2008 – Sep. 30, 2019, \$CAD



“Anyone who believes that exponential growth can go on forever in a finite world is either a madman or an economist.”

Kenneth Boulding, economist

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