



Impax Asset Management

Beyond Fossil Fuels:

The Investment Case for Fossil Fuel Divestment

Seattle Divestment Forum

18 October 2013

Impax Overview

- Award winning Global Equity specialist since 1998
- Successfully investing in companies active in the resource optimization markets
- Recognised thought leaders
- ~\$3.6 B AUM* across both public and private equity strategies
- Offices in London, Hong Kong, New York, and Washington DC

Strong Investor Relationships





 FT/IFC **SUSTAINABLE FINANCE AWARDS 2013**


 Impax Asset Management, UK
 Winner
 SUSTAINABLE INVESTOR OF THE YEAR

An event from FINANCIAL TIMES LIVE

*As at September 30, 2013. Awards include 'Best Fund Management Group' Investment Week Climate & Ethical Investment Awards 2012, 'Best Sustainable, Responsible, Ethical Investor' FT Business Pension and Investment Provider Awards 2012 and 'Specialist Equity Manager of the Year 2011' Global Pensions.

Beyond Fossil Fuels: The Investment Case for Fossil Fuel Divestment

- Pressure on investors to assess fossil fuel exposure
- Analysts warn of tighter regulations and softening demand reducing value or “stranding” reserves
- Legitimate questions remain about portfolio divestment risk/returns
- How to assess risk/returns from lower exposure to fossil fuel stocks?
 - Implications for returns? Risk? Tracking error?
 - Possible to divest from fossil fuel stocks while retaining exposure to energy sector dynamics?

Dispelling Five Investment Myths about Climate Change Risk

- 1) “The science is too uncertain to act”** – Actually no; the math is inescapable.
 - *Half the CO2 burnable while remaining under 2 °C has been emitted; <30 years left to 100%*
- 2) “Investors can afford to wait”** – Actually no; climate change impacts are here.
 - *Coal-fired plants close in Australia, US; Renewable energy growth 2X all others combined*
- 3) “Climate Change will only affect a small part of my portfolio”** – Actually no; climate change policy already affecting large market sectors.
 - *Energy and utilities (lower carbon model), Industrials (energy and water efficiency systems), Timber, food and agriculture (impacts of warmer temperatures, changing weather patterns)*

Dispelling Five Investment Myths about Climate Change Risk *(cont.)*

4) “Climate change is all about risk not about making returns” – Actually no; policy/regulations changing quickly and change brings opportunity

- *Opportunities in >1000 Resource Optimization companies; growing faster than the market*

5) “My managers can handle climate change” - Actually no; not their focus.

- *Policy changes can lead to sudden re-pricing or stranded assets that most managers are not tracking; diversified portfolios need a specific allocation to hedge climate risk.*

Analyzing the Impact of Fossil Fuel Divestment

Cost/benefits/risks of fossil fuel divestment can be determined by replacing fossil energy with diversified low-carbon energy or environmental technology stocks

Studied 4 alternative approaches:

- 1. Fossil Free Portfolio** - MSCI World Index without the fossil fuel energy sector
- 2. Fossil Free Plus Alternative Energy (Passive) Portfolio** - Replacing fossil fuel stocks with passive universe of renewable energy and energy efficiency stocks*
- 3. Fossil Free Plus Alternative Energy (Active) Portfolio** - Replacing fossil fuel stocks with actively managed portfolio of renewable energy and energy efficiency stocks**
- 4. Fossil Free Plus Low Carbon Environmental Opportunities (Active) Portfolio** - Replacing fossil fuel stocks with actively managed portfolio with a wider range of low carbon resource optimization companies***

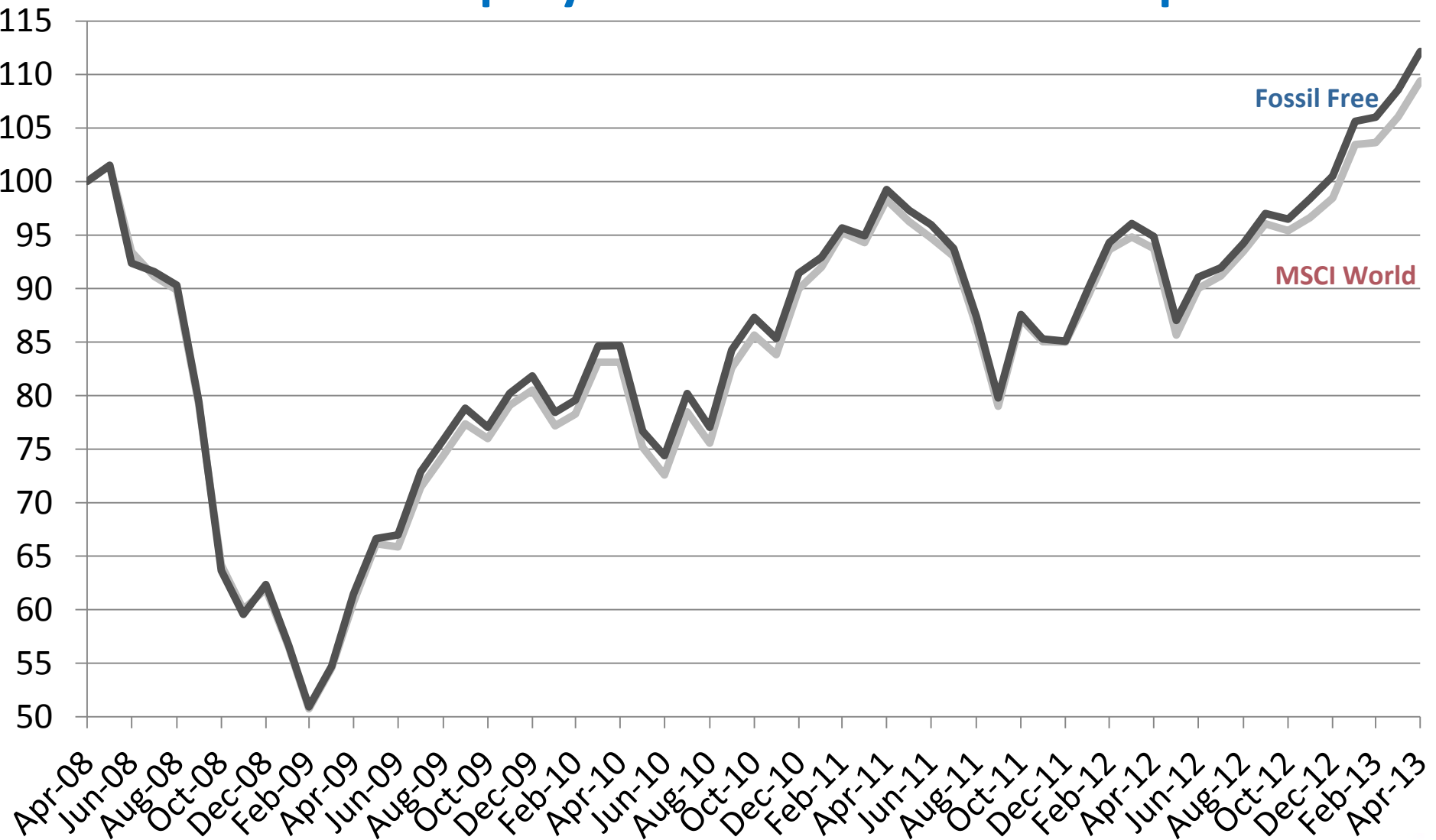
* FTSE Environmental Opportunities Renewable Energy and Energy Efficiency universe constituents on a capitalization weighted basis

** FTSE Environmental Opportunities Renewable Energy and Energy Efficiency universe constituents actively weighted per Impax's Leader's Strategy

*** FTSE Environmental Opportunities universe constituents actively weighted per Impax's Leader's Strategy

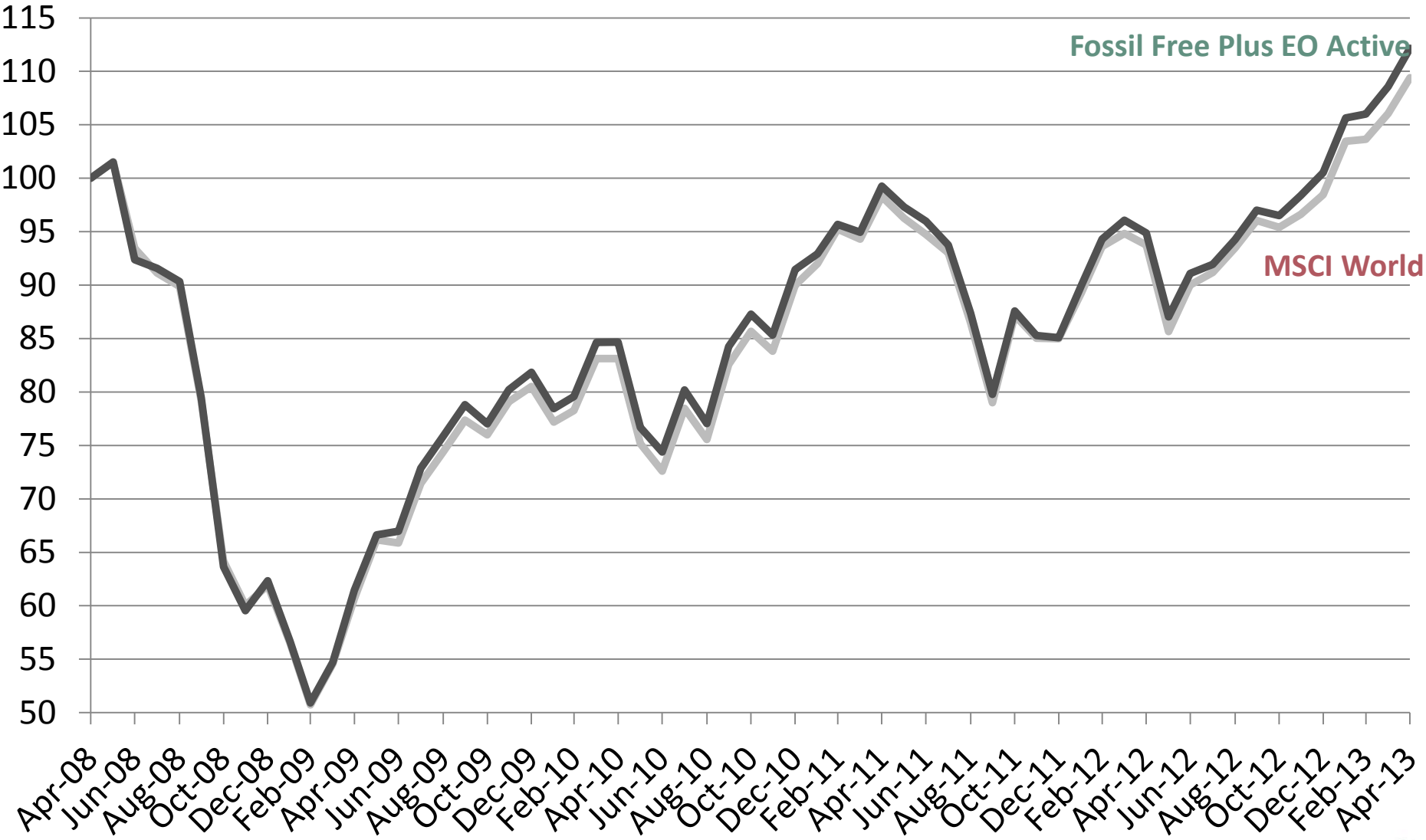
Global Equity Return Comparisons

MSCI Global Equity Returns: Fossil Free Outperforms



Global Equity Return Comparisons

MSCI Global Equity Returns: Low Carbon Active Outperforms



Global Equity Return and Risk Comparison

Risk and Return Characteristics: April 30, 2008 to April 30, 2013

	Annualized return	Annualized Volatility	Information ratio	Tracking error
MSCI World	1.8%	20.5%	--	--
Fossil Free Portfolio	2.3%	20.5%	0.28	1.6%
Fossil Free Plus Alternative Energy (Passive) Portfolio	1.9%	21.1%	0.00	1.8%
Fossil Free Plus Alternative Energy (Active) Portfolio	2.2%	21.3%	0.21	2.0%
Fossil Free Plus Environmental Opportunities (Active) Portfolio	2.3%	20.8%	0.31	1.6%

Top 10 Holdings in MSCI Energy Sector

Company	Weight in Sector	Sub Industry	Region
Exxon Mobil Corp.	14.7%	Integrated Oil & Gas	North America
Chevron Corp.	8.7%	Integrated Oil & Gas	North America
BP PLC	5.0%	Integrated Oil & Gas	Europe
Royal Dutch Shell PLC (CL A)	4.6%	Integrated Oil & Gas	Europe
Total S.A.	3.9%	Integrated Oil & Gas	Europe
Schlumberger Ltd.	3.6%	Oil & Gas Equipment & Services	North America
Royal Dutch Shell PLC (CL B)	3.3%	Integrated Oil & Gas	Europe
Occidental Petroleum Corp.	2.6%	Integrated Oil & Gas	North America
ConocoPhillips	2.5%	Oil & Gas Exploration & Production	North America
ENI S.p.A.	2.2%	Integrated Oil & Gas	Europe
Total	51.1%		

Top 10 Holdings of the FTSE EO Energy Universe

Company	Weight in Sector	Sub Sector	Region
Siemens AG	8.9%	Diversified Energy Efficiency	Europe
Honeywell International Inc.	5.9%	Diversified Energy Efficiency	North America
ABB Ltd.	5.4%	Power Network Efficiency	Europe
Emerson Electric Co.	4.2%	Power Network Efficiency	North America
Schneider Electric S.A.	4.1%	Power Network Efficiency	Europe
Fanuc Corp.	3.0%	Industrial Energy Efficiency	Asia Pacific
Eaton Corporation PLC	2.9%	Power Network Efficiency	North America
Royal Philips NV	2.7%	Buildings Energy Efficiency	Europe
Enel S.p.A.	2.6%	Renewable Energy Developers & IPPs	Europe
Johnson Controls Inc.	2.4%	Buildings Energy Efficiency	North America
Total	42.1%		

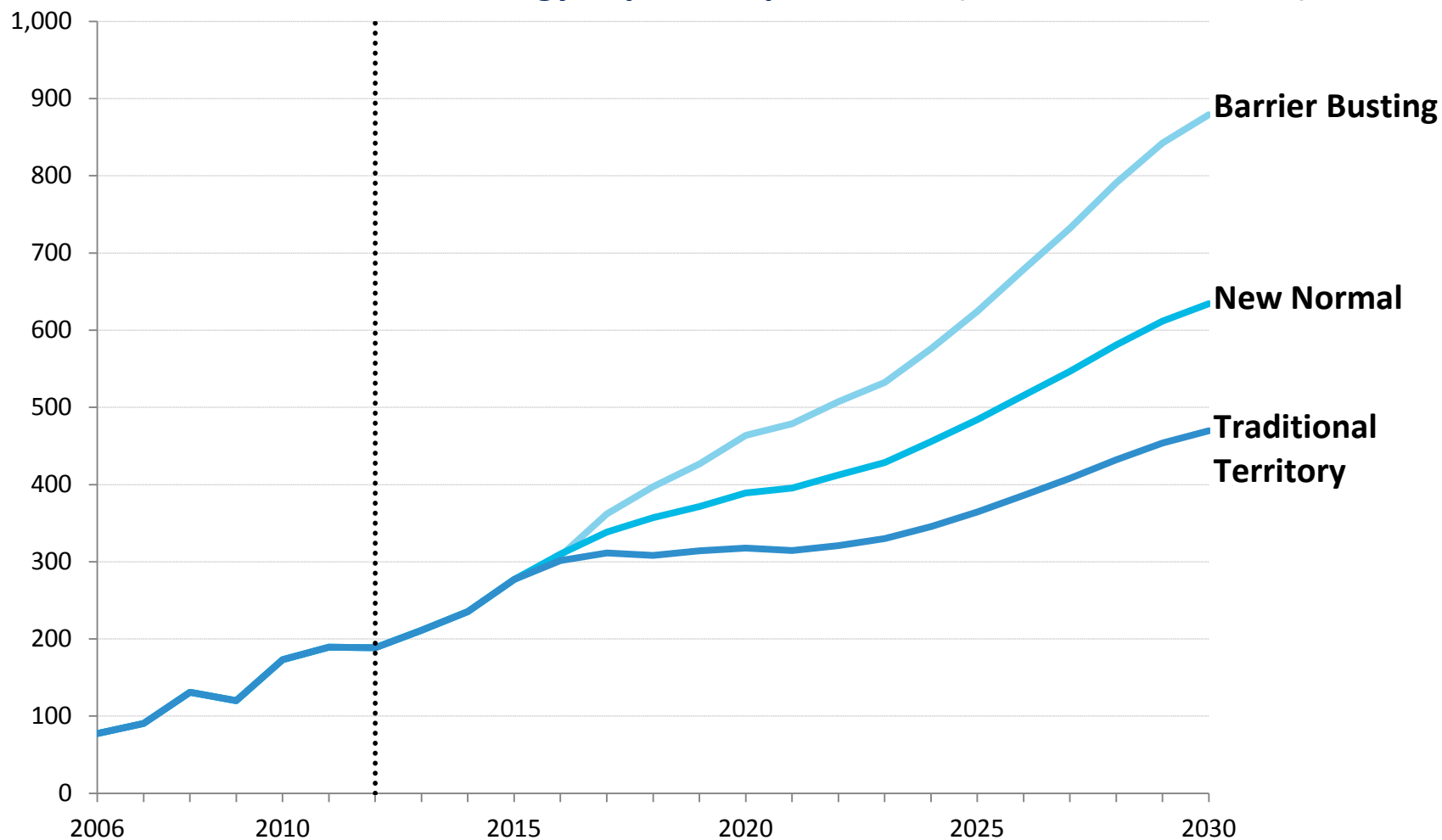
A Wealth of New Opportunity in Low Carbon Energy

Investors can benefit from low carbon energy and environmental technology:

- Outperformed fossil fuels in tough climate for large-scale renewables/wider environmental investment
- New factors accelerating demand for low carbon energy/products/services:
 - Constraints on greenhouse gas emissions
 - Growing pressure on natural resources
 - Continuing scientific and engineering advances that reduce costs of technologies
 - More favorable macro-economic environment
- International Energy Agency projects:
 - >50% of new investment required to meet climate challenge is for energy efficiency
 - 28% for low carbon transport
 - 21% for low carbon energy

A Wealth of New Opportunity in Low Carbon Energy

Annual Renewable Energy Capital Requirements (in Nominal \$ Billion)



Graph shows three scenarios that have been created to show a range of possible outcomes for the clean energy market. New Normal, Barrier Busting and Traditional Territory. These scenarios represent three different views of how the world's energy system will evolve based on a range of assumptions around technology costs, economic prosperity, policy ambition and investment in grid infrastructure.

Source: Bloomberg New Energy Finance, Global Renewable Energy Market Outlook 2013

Low Carbon Investment Sectors Benefit From Climate Change

Energy Efficiency and Alternative Energy:

- Technology/products/service solutions reduce energy use, costs, carbon footprint; greater alternative energy generation (capacity being added 2X faster than fossil power)

Water Infrastructure and Treatment:

- Climate change + population growth creating more “water stressed” regions; investing billions in new infrastructure, treatment


Waste/Resource Recovery:

- Recycling and resource reclamation - less carbon intensive, *less expensive* than new materials

Food & Agriculture:

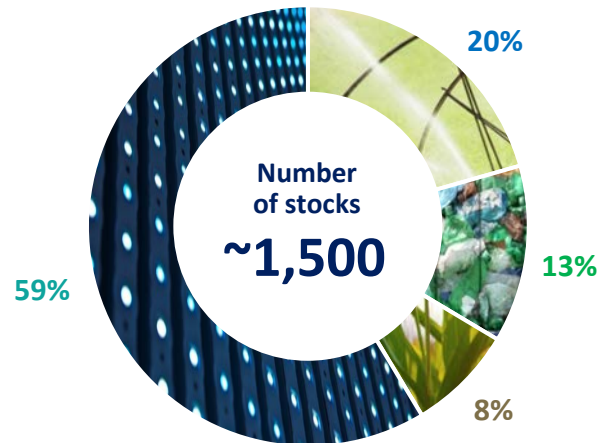
- Farming/agriculture improvements boost yields, reduce carbon intensity; improved irrigation systems reduce water use in increasingly arid regions

Resource Optimization: Diverse Public Equity Opportunities



Energy

Energy Efficiency <ul style="list-style-type: none"> • Power Network • Industrials • Buildings • Transport • Consumer 	Alternative Energy <ul style="list-style-type: none"> • Developers & IPPs • Solar • Wind • Biofuels • Other
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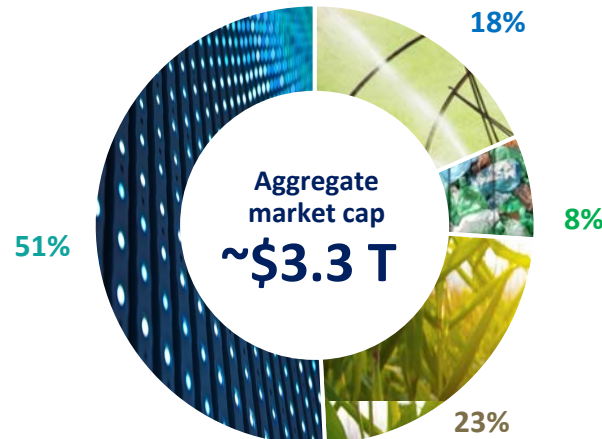

Water

Water Infrastructure & Technologies <ul style="list-style-type: none"> • Infrastructure • Treatment • Utilities 	Pollution Control <ul style="list-style-type: none"> • Pollution Control Solutions • Testing & Gas Sensing
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Food, Agriculture & Forestry¹

Food <ul style="list-style-type: none"> • Packaging & Food Safety • Packaged Food & Ingredients • Distribution & Commercial Services 	Agriculture <ul style="list-style-type: none"> • Agricultural Inputs • Machinery & Equipment • Logistics & Infrastructure
	Forestry <ul style="list-style-type: none"> • Growers & Processors




Waste/Resource Recovery

Waste Management & Technologies <ul style="list-style-type: none"> • Tech Equipment • Recycling & Processing • Hazardous • General 	Environmental Support Services <ul style="list-style-type: none"> • Consultancies • Carbon & Asset Trading
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Some sub-sectors have an additional 'diversified' category not shown above for the sake of clarity.

¹Food, Agriculture & Forestry includes companies pending full entry to the Impax investment universe.

Resource Optimization: Diverse Public Equity Opportunities



Energy

Energy Efficiency

- Power Network
- Industrials
- Buildings
- Transport
- Consumer

Renewable Energy

- Developers & IPPs
- Solar
- Wind
- Biofuels
- Other



Water

Water Infrastructure & Technologies

- Infrastructure
- Treatment
- Utilities

Pollution Control

- Pollution Control Solutions
- Testing & Gas Sensing



Food, Agriculture & Forestry¹

Food

- Packaging & Food Safety
- Packaged Food & Ingredients
- Distribution & Commercial Services

Agriculture

- Agricultural Inputs
 - Machinery & Equipment
 - Logistics & Infrastructure
- ### Forestry
- Growers & Processors



Waste/Resource Recovery

Waste Management & Technologies

- Tech Equipment
- Recycling & Processing
- Hazardous
- General

Environmental Support Services

- Consultancies
- Carbon & Asset Trading

Conclusions Regarding Fossil Fuel Divestment

Investors should consider divesting fossil fuel stocks from their global equity portfolios:

- Benefits from replacing with passive or active allocation to Fossil Free Alternative Energy strategies
- Higher returns from an actively managed Fossil Free Low Carbon Environmental Opportunities strategy
- Tighter carbon regulations likely with profound economic implications
- Considerable uncertainty about timing/scope of regulations. Few will be able to anticipate or “time” re-pricing, and stranding of fossil fuel assets could result
- Softening demand for fossil fuels in some markets from substitution by competing low-carbon energy another possible factor
- ***In our view, investors should carefully assess whether the risks of owning fossil fuel stocks outweigh alternative strategies***

Thank You

Ken Locklin, Managing Director

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Ken is a Managing Director for Impax Asset Management (US) LLC. He is the US Policy Advisor, responsible for supporting the investment team and helping build Impax's business in North America. Ken has 30 years of finance experience and a 20 year commitment to clean energy enterprise investment, development, management and finance. Before joining Impax, Ken worked as the Director of Finance and Investment with the Clean Energy Group (CEG) and worked with NGO Ceres to advise the Investor Network on Climate Risk. Prior to this he acted as a founding member of the Massachusetts Green Energy Fund management team and was a Partner at EIF Group. Ken is a founding Co-Chair of the Finance Committee of the American Council on Renewable Energy (ACORE), the leading US renewable energy umbrella organization. He is a graduate of Yale University.

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