

TITLE:

Investment Themes and Resource Sustainability

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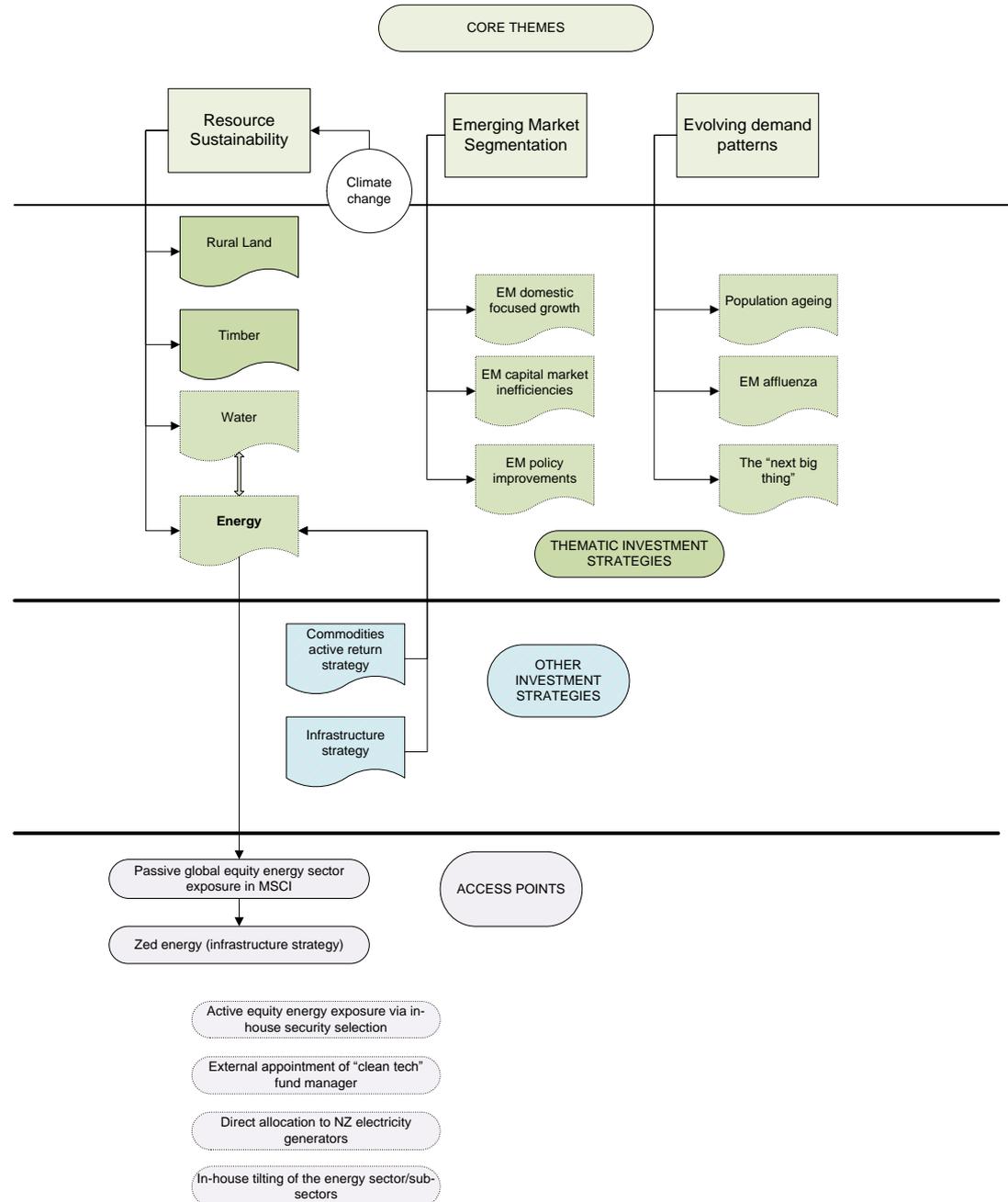
Background

- The NZSF has embedded **Investment Themes** into its investment opportunity process
 - *“long-term influences on the economy and capital markets that are expected to be relatively immune to business cycle and other short-term influences”*
- For us to see Themes as an investment opportunity we have to identify what the investible impacts are and the extent to which they have been priced-in
- Given impacts are often “slow burners” subject to uncertainty they will not usually be fully-priced in
- This suits the NZSF’s long-term investment horizon endowments -- we have the discipline to wait until markets better reflect thematic influences
- Thinking here is very similar to the Fund’s ESG belief
- Themes may also have important top-down portfolio risk implications, e.g. climate change impact on energy holdings

Themes Focus

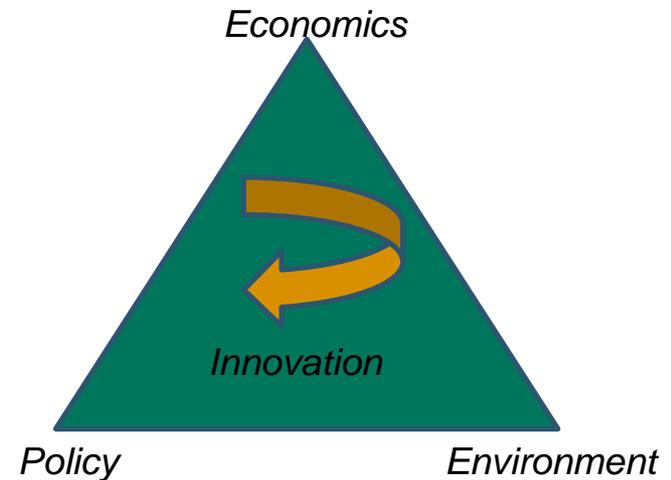
- The NZSF's high-level themes focus is:
 - Resource Sustainability (climate change important element)
 - Emerging Market Segmentation; and
 - Evolving Demand Patterns.
- The principles behind this are:
 - i. provide broad coverage across the range of thematic influences we can reasonably identify;
 - ii. are aligned with leveraging our endowments and to some extent existing in-house expertise (e.g. in natural resources);
 - iii. are useful to organise the development of new investment strategies and refinement of existing along thematic lines (see over page); and that they
 - iv. are fairly recognisable externally and hence may be used to communicate to external parties the sort of the thematic opportunities we are interested in.
- We develop theme-based investment strategies to pro-actively integrate themes into the portfolio (over-page)

Themes and Investment Strategies



Resource Sustainability Theme

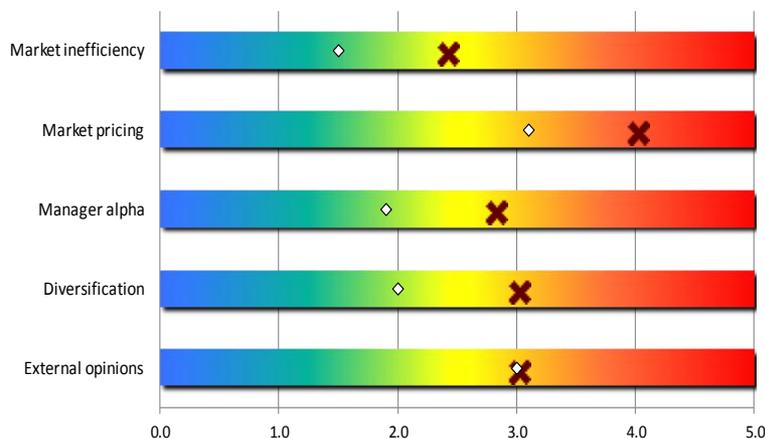
- Premise:
 - that resource usage patterns are not sustainable and this presents an active return opportunity because impacts may not be fully factored into prices - myopic investment and policy horizons.
- Strategies developed from the theme may also offer portfolio risk mitigation benefits (e.g. tilt to assets less sensitive to environmental externalities and “stranded asset” problems)
- Heat maps framework rates sustainability-based strategies highly on market inefficiency criteria
- Enables direct integration of the E in the Fund’s ESG focus
- Existing strategies highly aligned with theme:
 - Timber, Rural Land, Energy (most recently)
- This theme is the most progressed at the NZSF



Resource Sustainability Theme: Energy Strategy

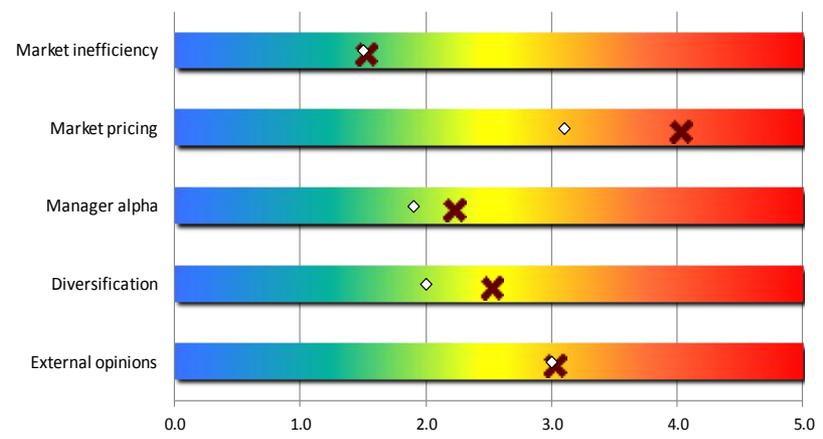
- Recently-developed Energy Strategy considers:
 - Existing portfolio holdings – largely conventional energy given passive exposures to global equities
 - Thematic drivers – interaction of climate change, demand and supply trends, technology and policy provides rich mix of risks and opportunities
 - Fit of strategy to the Fund’s endowments (long horizon and Sovereign advantages) and preferred investment style (ability of strategy to “shift the dial” and potential for direct and/or flexible mandates).
 - “Heat Map” of conventional and alternative energy sectors suggests mis-pricing, market inefficiency and diversification benefits, particularly in alternative energy

Opportunity heat map summary - Alternative Energy



✘ Alternative Energy ◇ Average of all strategies

Opportunity heat map summary - Conventional Energy



✘ Conventional Energy ◇ Average of all strategies

Resource Sustainability Theme: Energy Strategy

Two broad areas prioritised for potential investment:

- Alternative energy and energy efficiency opportunities
 - Focus is on proven generation technologies able to compete with conventional energy to limit technology and policy risks (e.g. geo-thermal, smaller scale hydro, waste-to-energy, some on-shore wind and solar).
 - More willingness to take project development risk (alternative energy generation) or market uptake (energy efficiency) risks.
 - Large potential source of opportunity is non-OECD markets where alternative energy investment has been running at a higher level than conventional since 2011 -- overlaps with Fund's EM Segmentation theme
- Infrastructure opportunities associated with the boom in Nth American natural gas fields
 - Natural gas is viewed a key “transition” fuel – much lower GHG profile than coal generation and petroleum products used in transportation
 - Major constraint in ability to switch to gas is lack of mid-stream infrastructure (pipelines, storage facilities, etc) and linking of upstream fields
 - Excess returns in the sector partly a function of ongoing lack of “risk appetite” and pull-back of investment banks in this space as a consequence of bank regulation post-GFC
 - Maybe global and NZ opportunities down the track – but we are less willing to take exploration risk

Summary

- **Investment Themes** are an important part of the NZSF's value-adding investment activities.
- Thematic investing requires us to think about **long-term horizons** over which issues such as Climate Change become an important potential source of portfolio risk and opportunity.
- The **commercial discipline** required is to assess both whether these potential longer run impacts have been “priced in” by markets and the degree of confidence we can have investing into them.
- **Resource Sustainability** has been a particular thematic focus for the Fund, with an **Energy Strategy** being the most recent development.