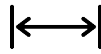


## Invesco Australian Equities

Versatile, cost effective design is increasingly valued by asset owners looking to satisfy their investment needs. Factor investing is an approach which can play this role in an asset owners' portfolio, taking advantage of the following characteristics:



**Breadth of coverage:** Quantitatively captures the data necessary to cover the full universe of investable securities, which broadens the opportunity set.



**Symmetry of active returns:** Quantitative approaches analyse companies - large and small - without human emotion or bias, and independent of access to company management. This facilitates an investment symmetry between the long and short side, diversifying the return drivers.



**Systematic engine:** Infrastructure and processes designed to dial up or dial down a multitude of variables; be it risk/return tolerances, tax requirements, portfolio guidelines, exclusions, or tilts to certain factors/attributes.

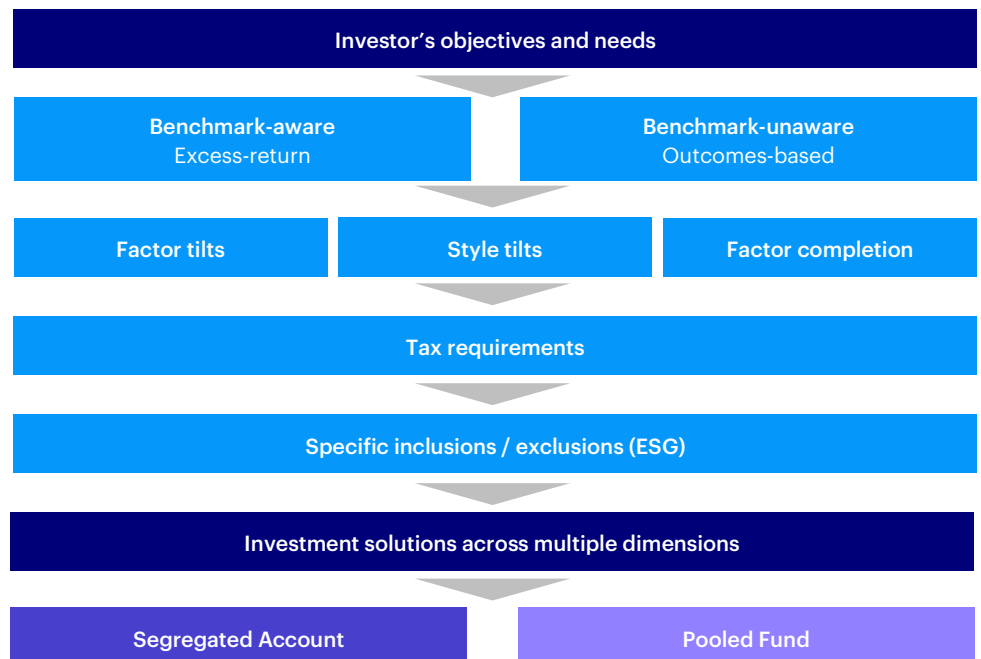


*"The only person who acts sensibly is my tailor. He takes my measure anew every time he sees me. Everyone else goes by their old measurement."*

George Bernard Shaw

Given these key characteristics, factor investing is well suited to provide investors with flexible combinations of excess-return and outcomes-based strategies across the risk spectrum. The following paper explores the world of possibilities opened up by factor investing.

Investor's objectives and needs are not only individual, but they also evolve over time. Like a clothes tailor, it is best to take an investor's measure – capturing objectives and needs – regularly. Factor investing presents the investor with a set of options, which – once selected – determines the investment solution. A tailored solution may be required, or an existing pooled solution may satisfy the objectives and needs of the investor.



## Benchmark-aware (Excess-return)

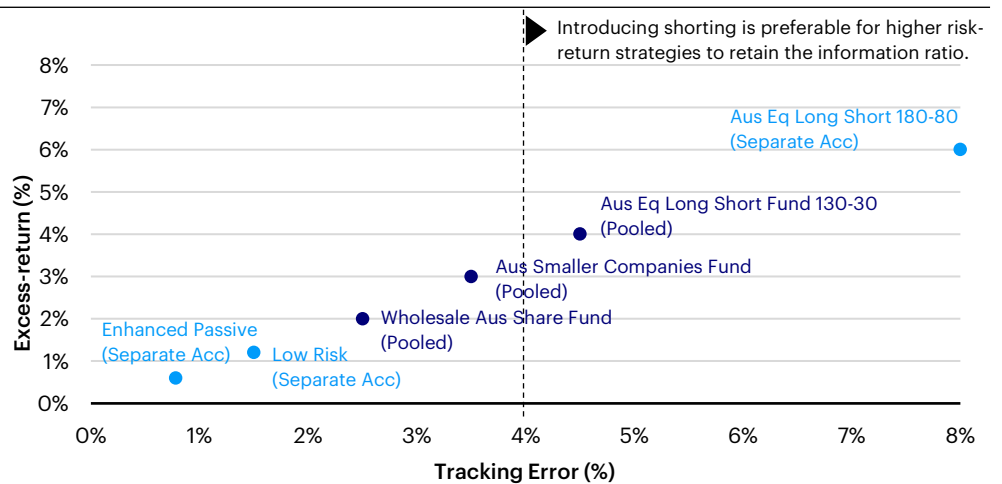
Factor investing has the versatility to target optimal positions on the equity risk-return spectrum.

In factor investing, every stock in the investable universe is allocated a set of factor scores, and the transparency and quality of source information for these scores is broadly consistent – that is, they are symmetrical on the long and short sides. This symmetry contrasts with the potential information asymmetry a fundamental manager will encounter when seeking information from a company’s management, suppliers or customers; an openness and willingness to engage when the company is enjoying tailwinds and strategy success, but potential reticence and opaqueness when the company is facing headwinds and strategy misses.

The symmetrical nature of factor investing plays an increasingly advantageous role as the excess-return targets increase. A long only portfolio overweights attractive stocks and underweights unattractive stocks relative to the benchmark - but there is a limit to how far this can be pushed with a long only portfolio. The budget to overweight stocks must increasingly be sourced from underweighting the large capitalisation names, whether or not these larger names really deserve to be underweighted. In other words, underweighting Peter Ltd to overweight Paul Ltd becomes a problem when Peter Ltd (which may in fact be attractive – but whose size provides a budget if underweighted) actually performs well; and the benchmark will show it. A symptom of pushing long only ‘too far’ is a declining information ratio.

A solution to this dilemma is to employ shorting for higher risk-return strategies, and factor investing’s symmetry provides the versatility to target risk return positions deep into the range of long-short ratio strategies, as shown in Exhibit 1 below.

Exhibit 1: Benchmark-aware strategies



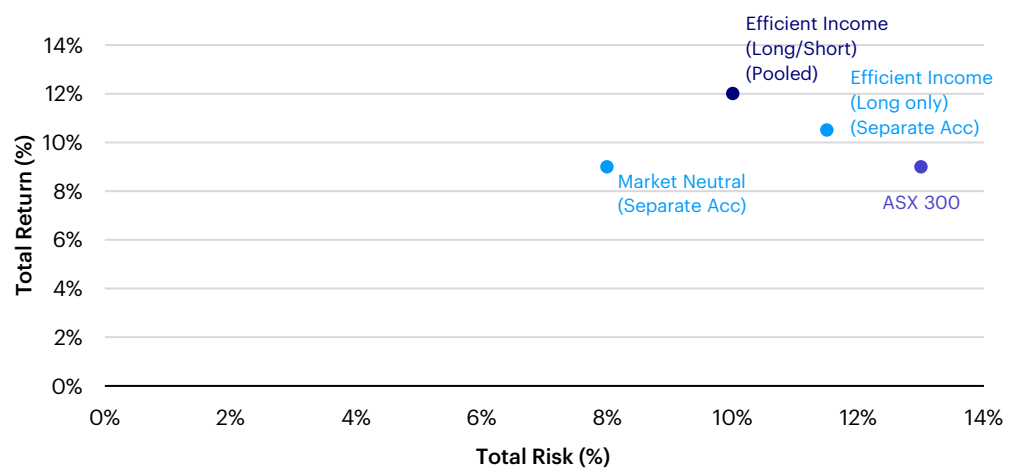
Source: Invesco for illustrative purposes. These are targeted active returns.

## Benchmark-unaware (Outcomes-based)

Pursuing total return (including capital appreciation, income, tax and franking preferences) versus total risk (general volatility and susceptibility to market drawdowns) is the domain of benchmark-unaware strategies. Also known as ‘outcomes-based’ strategies.

An outcome can be that of a ‘market-neutral’ strategy; targeting a similar return to the ASX300 but with lower risk. Or an outcome can be that of a strategy which targets higher returns and/or lower risk, up to an optimal level. Exhibit 2 illustrates a number of outcomes-based strategies.

Exhibit 2: Benchmark-unaware strategies



## Efficient Income Strategy – An outcomes-based pooled strategy for Australian Investors

IQS Australia’s research led to the identification of the following “building blocks” which best extract equity premia in a risk-efficient manner. The “Efficient Income (Long/Short)” strategy, in green in Figure 2, was the product of this research.

Building Blocks	Features	Benefits		
		Lower volatility	Downside protection	Higher returns
1. Benchmark unaware	Optimising diversification by breaking away from benchmark-capitalisation weightings	✓	✓	
2. Multi-factor exposures	Maximising exposure to compensated factors and minimising exposure to uncompensated factors			✓
3. Long-Short	Shorting allows more freedom and opportunity for both risk premia capture and risk management		✓	✓

How this strategy employs the building blocks to achieve its optimised risk/return outcome can be explored in detail in our [Risk Efficient Equity Investing Whitepaper](#).

## Factor tilts, style tilts and factor completion

The essentials of a business suit are dictated by the proportions of the human body, the details of the suit are dictated by the preferences of the buyer. The longer the list of details the suit buyer desires, and the more eccentric the body proportions, the lower the chance that a satisfactory suit can be bought 'off the rack'. A bespoke suit allows the buyer to build up preferences from the baseline of essentials, and a good tailor can ensure these preferences work together, but this all comes with an increase in price.

With factor investing, the huge variety of investment preferences opened up (see Appendix 1 for a summary), and the tailoring to best fit an existing portfolio, is not in fact met with a proportionate increase in cost.

### Common Strategy Preferences

#### Factor tilts

Factor investing is focused on selecting stocks based on relative factor attractiveness in a given sector – generally Value, Quality and Momentum. Tilts dial these individual factor preferences up or down relative to other factors.

#### Style tilts

Tax efficiency, maximum diversification, and turnover objective style tilts add to a much longer list of specific risk or return style tilts that can be tailored.

#### Factor completion

Factor completion is the strategy by which an investor's existing portfolio is specifically complemented by targeting the desired compensated<sup>^</sup> factor exposures that have been assessed as lacking. The result is a portfolio which is 'factor complete'. See Figure 3.

<sup>^</sup> 'Compensated' factor exposures (i.e. value, quality, momentum) provide excess equity premia for the risk taken. Uncompensated' factor exposures, such as sector and industry concentration, increase risk without commensurate return and should therefore be minimised.

### Exhibit 3: How factor completion works

1: Scanning initial portfolio



2: Choice of completion



3: Balanced portfolio



#### Factor Tilts

Questions for an investor to consider:

- What are my investment objectives?
- Enhance returns
- Address portfolio inefficiencies (principally exposure to uncompensated risks)
- Address portfolio incompleteness in terms of return capture or diversification
- Mitigate risk
- What are the risks of factor tilts?

Second order effects from the introduction of a factor (or style) tilt should be anticipated and assessed, as it is possible that the efficiency of the active return will be undermined.

## Case Study I – Value factor tilt

A client engaged us to co-design and implement a Value tilt strategy as they felt their existing portfolio did not offer enough Value exposure, particularly in a specific geographic region.

An appropriate benchmark was established, and a statistically meaningful tilt to Value was determined for the portfolio optimisation process. Once the desired risk parameters were determined, simulations over a 20+ year investment period were run to confirm the excess-return expectations were reasonable whilst employing the tilt to Value. The research confirmed an overall lift in the level of Value tilt was appropriate, as was retaining the mix of individual signal weights used to gain the Value factor exposure.

A factor tilt necessarily moves a strategy away from the ‘optimal’ return factor balance in a standalone multifactor fund. When considering the exposures of the new strategy, in combination with the client’s existing aggregate factor exposure, the mix may warrant further customisation. The client was, and remains, interested in an aggregate portfolio with optimal return factors – and this individual strategy was implemented (in a separate account) to complete the aggregate portfolio with Value in a specific region.

## Tax Requirements

Tax effective factor investing makes a real difference to performance outcomes, adding value without increasing pre-tax active risk, and providing a valuable increment to return.

Optimal handling of net gains from trading and preserving imputation entitlements customised for the investor’s tax requirements. The value added by introducing explicit tax management to an active process can be up to a third of the post-tax active return for a superannuation fund and is more reliable and consistent than active stock selection.

### Tax management mechanism

#### Managing the character of earnings

Extending share holding period to achieve long-term capital gain status.

Restricting sales around dividend ex dates to ensure franking eligibility.

#### Delaying gain realisation

Postponing the realisation of gains allows growth to compound for longer.

Economically like an interest-free loan to earn wealth through compounding.

#### Accelerating loss realisation

Selling securities that are trading at a loss allows losses to offset capital gains in other parts of the portfolio or in the future.

Tax effective portfolio management is well suited to quantitative factor investing because there are a vast number of portfolios that have similar factor exposure characteristics, enabling selection of a rebalancing trade with favourable tax consequences without significantly compromising factor exposure.

An investor’s tax requirements – their specific tax status and accounting policy - can be catered for to customise the implementation. Discover more about the elements that make up [tax effective factor investing](#).

## Case Study II – Tax effective factor investing

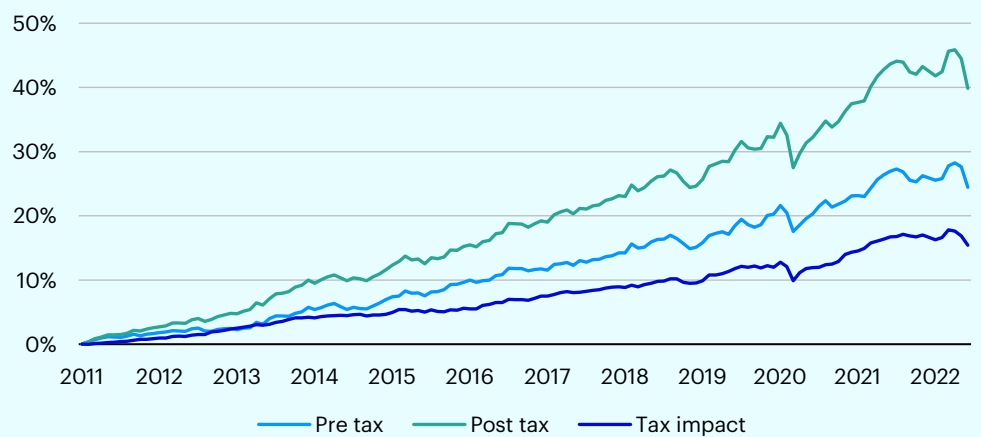
A client seeking to incorporate explicit tax-effectiveness came to us with the following specific tax-related requirements:

1. Enhanced index style of factor investing
2. Corporate tax status, with all trading on revenue account for tax purposes
3. “Highest-cost, first out” (HIFO) accounting policy

Through implementing the tax management mechanism outlined above in the context of the client’s tax requirements we found a strategy seeking 1% of pre-tax alpha would earn an additional 0.5% of value-add from tax-effectiveness.

Figure 4 illustrates the profile of active return accumulation pre and post tax over the life of the simulation for the 1% tracking error strategy. The simulation covers the period Jan 2011 to Jun 2022. Note that the benefit of tax management arises consistently over the period of the simulation.

**Figure 4: Pre and post tax cumulative active return**



Source: Axioma and Invesco as at 30 June 2022. Results provided are for the time period Jan 2011 to June 2022..

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## Specific inclusions / exclusions (ESG)

### Environmental, social and governance considerations

As factor investing is broad and systematic it lends itself to the consideration of a multitude of ESG measures and rankings across the full investable universe. Factor investing can favour or disfavour stocks based on ESG considerations in a consistent manner, and on a peer-group relative or absolute basis.

### Integrating ESG at the core of portfolio construction

Questions for an investor to consider:

- What are my objectives in implementing an ESG strategy?
- Is disengagement (screening-out), engagement (active investment through proxy voting and corporate access), or a combination of the two the ESG approach which best appeals?
- How loose or tight, how specific or broad, do I want the ESG criteria met? Do I want to consider stocks on a peer-group or an absolute manner?

### Elements of ESG integration

#### ESG Exposure Control

Control the portfolio's overall ESG score during the portfolio construction.

#### Adverse ESG Momentum

Exclude companies suffering severe downgrades in their ESG ratings.

#### Quality-Governance Linkage

Well managed companies (with high Quality factor scores) tend to have good governance. Factor Investing therefore aligns naturally with ESG on the 'G' element.

### Potential benefits of ESG integration

- Mitigate the potential severe risks arising from ESG issues by avoiding those companies most exposed to negative ESG risk events.
- Prevent investments in companies with worsening sustainability ratings - as additional risks are not rewarded.
- Benefit from the consideration of alternative data sources providing more depth of information for investment decisions.

## Case Study III – ESG; Carbon Emissions

A client came to us with a low carbon emission investment goal as part of the investment process. The twin challenges to address were:

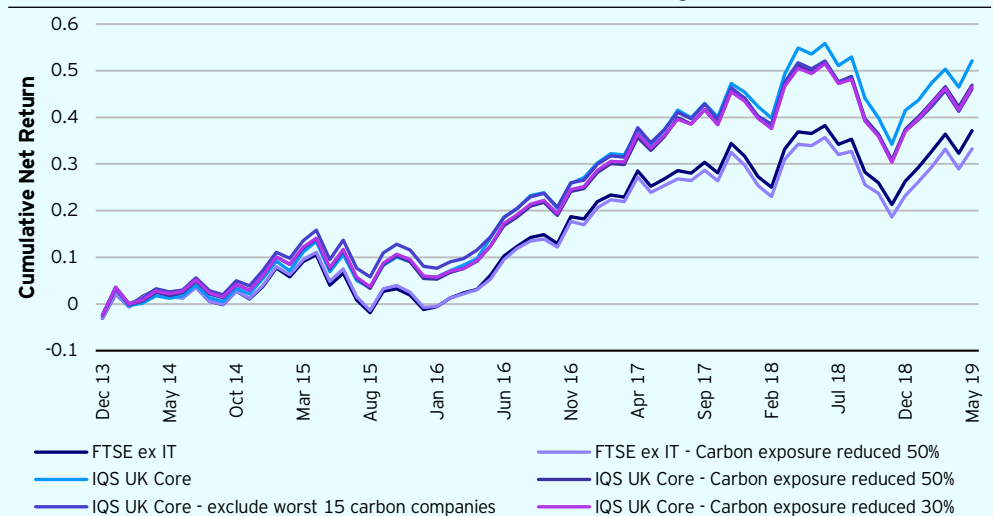
1. Determining the metric which best represented the investment goal.
2. Selecting an investment approach which best satisfied the goal, while detracting the least from the active return objective of the fund.

For ‘challenge 1’ we selected a third-party metric; the Institutional Shareholder Services’ (ISS) Carbon Intensity Metric (CTE) – which is a measure of companies’ direct and indirect greenhouse gas emissions divided by sales. The investor’s goal was to reduce CTE exposure by 50%.

For ‘challenge 2’ we ran four simulations and compared these to the actual returns of the FTSE ex IT benchmark and the IQS UK Core fund\*. One of these simulations concerned a new benchmark created for the purpose; FTSE ex IT with carbon exposure reduced 50%.

We found that three lower-carbon investment strategies performed similarly, when backtested with the latest multi-factor model, and all three provided a positive active return compared with both benchmarks in the simulation. An additional benefit was that the performance of these could be neatly attributed between the dual goals of the strategy; reduced carbon exposure and excess returns from factor investing.

### Exhibit 5: Alternate low carbon emission investment strategies



Source: Invesco. Four simulations of investment strategy cumulative net return (Dec 2013-May 2019), a simulation of a new benchmark cumulative net return; ‘FTSE ex IT - Carbon exposure reduced 50%;’ and an actual benchmark cumulative net return series ‘FTSE ex IT’ Dec 2013-May 2019.

\*Note: We have verified that an analogous strategy in the Australian equities market is possible.



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## Investment solutions across multiple dimensions

### The versatility of systematic investing in practice

Systematic research-based investing, such as factor investing, excels at finding optimal solutions for multiple simultaneous investment goals. It is also less prone to market participants' behavioural biases – in fact, these biases are at the root of much of the persistent equity premia which factor investing seeks to capture (see our [Persistence in Factor Investing Whitepaper](#)). And systematic investing can find a path to a goal which is not the 'direct path' – for instance if income is a goal, it is not necessarily last year's top dividend payers that one should target. Research can reveal a path which balances income with the factors which capture persistent risk premia over time.

Continual research and model improvement help ensure that a factor investing portfolio will continue to meet investors goals optimally over-time. Factor investing also allows the portfolio to be rebalanced regularly while remaining faithful to the multiple investment dimensions that have been set.

IQS believes that: factor premia arise persistently from the fundamental drivers of company performance; factor premia are most effectively quantified by refined, proprietary signals; factor premia are best captured by a systematic, multi-factor, bottom-up process enhanced by continuous research.

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## Why our clients choose Invesco Quantitative Strategies



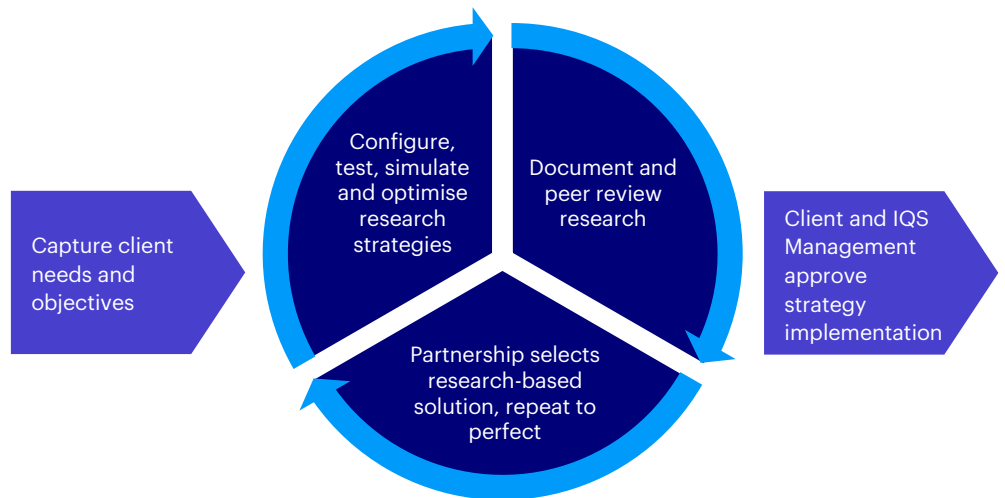
## A partnership approach to co-design

Invesco Quantitative Strategies' infrastructure has been designed to facilitate the management of hundreds of bespoke and segregated strategies. Furthermore, the team's structure, processes and culture are aligned to partnering with clients to co-design.



## A partnership approach to strategy research

Invesco Quantitative Strategies' investment philosophy and processes are founded upon continuous research, and this research capability extends to partnering with clients on investment objectives across multiple dimensions.



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## Appendix 1: Summary of specific investor needs

### Factor Tilt

#### Relative tilts to Value, Volatility, Momentum, Size or Quality

To fulfil an investor's preference, or to complete a 'return factor gap' in an investor's overall portfolio.

### Style Tilts

#### Maximised Diversification

To provide greater sector diversification and reduce larger-capitalisation single-name concentrations.

#### Turnover Objective

To meet an objective concerning the trade-off between frequent and broad portfolio rebalancing, and the increasing transaction costs that ensue as frequency and breadth increase.

#### Risk and Return Targets

Benchmark aware → Tracking error target ranges to achieve a given excess-return target.

Benchmark unaware → Total risk target ranges to achieve a given total return target.

#### Return Absolute Return

Meeting a maximum capital and income return aggregate.

#### Selected Return Drivers

Limiting the range of return factors - down to a single factor if required.

#### Income

Meeting dividend objectives.

#### Risk Reduced Volatility and Drawdown Protection

Employing minimum variance and long-short approaches to temper volatility and drawdown exposure.

#### Tailored Risk Factor Exposure

Implementing preferences around risk – such as a tilt to Growth or Small-cap stocks.

### Tax Requirements

Optimal handling of net gains from trading and preserving imputation entitlements customised for the investor's tax requirements.

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#### Tax Status

Individual, corporate, superannuation fund, tax-exempt

#### Accounting Considerations

Tax accounting rule requirements

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### Inclusion and Exclusions

#### ESG Outcomes

Meeting Environmental, Social or Governance (ESG) objectives. These objectives can be ESG benchmark's criteria, or specific investment preferences based on ESG sub-scores and ratings.

#### Specific Exclusions

Screening-out or handicapping the investment preference of stocks, on the basis of specific criteria. These may be ESG related criteria, but not necessarily.

## **Important information**

This document has been prepared by Invesco Australia Ltd (Invesco) ABN 48 001 693 232, Australian Financial Services Licence number 239916, who can be contacted on freecall 1800 813 500, by email to [info@au.invesco.com](mailto:info@au.invesco.com), or by writing to GPO Box 231, Melbourne, Victoria, 3001. You can also visit our website at [www.invesco.com/au](http://www.invesco.com/au)

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