

ETFInvestor™

Year-End Review 2021



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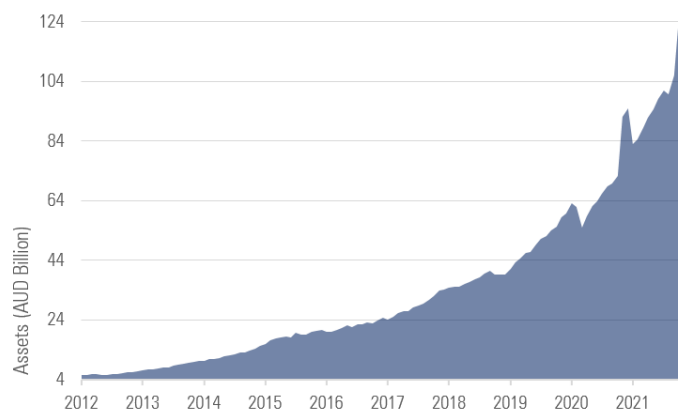
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Exchange-traded funds' growing popularity among retail investors continues to drive growth in this sector. There were record net inflows into existing ETFs and by a number of successful new launches in 2021. Investors have shown a growing appetite for theme-based ETFs while maintaining similar enthusiasm for active and environmental, social, and governance factor-based ETFs. Fees have remained steady, but the direction of fund flows reveals investors' clear preference for low-cost products where available.

Asset Size and Net Flow

Australian ETFs recorded sizable growth in 2021. Assets surged 23.9% to AUD117.0 billion. The strong domestic-equity market (the Morningstar Australia Index posted gains of 18% for the year) was a sentiment booster as investors pumped in AUD20.8 billion into local equity ETFs, marking a 12.1% increase in net inflows relative to 2020. This growth, however, paled in comparison to 2020 when Australian equity ETFs' net flow grew by 50.4%.

Exhibit 1: Australia ETF Asset Growth



Source: Morningstar Direct, Morningstar Research. Data as of 31 Dec 2021.

Historically, the local ETF industry has been concentrated with a handful of larger players managing the lion's share of the assets. There was no change in that trend in 2021. Vanguard, iShares, and BetaShares continued to occupy the top three positions in terms of funds under management, or FUM. As of 31 Dec 2021, the trio together managed close to two thirds (73.6%) of the total ETF assets in Australia.

Vanguard retained its market leadership across the board with a 48.4% jump in FUM relative to 2020. The firm attracted the highest net inflows in 2021. As of 31 Dec 2021, Vanguard managed 32.7% of the total ETF FUM in Australia, followed by iShares (21.7%) and BetaShares (19.2%). Interestingly, State Street has managed to hold its position among the top five providers despite seeing a sharp fall in net flows compared with 2020.

Exhibit 2: Top 5 ETF Providers in Australia

	FUM (AUD Bn) Dec 2021	FUM Growth in 2021	Net Flow (AUD Bn) in 2021	Net Flow Growth in 2021
Vanguard	38.2	48.4%	7.1	35.0%
iShares	25.4	33.0%	2.8	-3.4%
BetaShares	22.5	54.5%	6.2	21.7%
VanEck	10.0	57.4%	2.4	10.7%
State Street	8.4	19.6%	0.1	-87.6%

Source: Morningstar Direct, Morningstar Research. Data as of 31 Dec 2021.

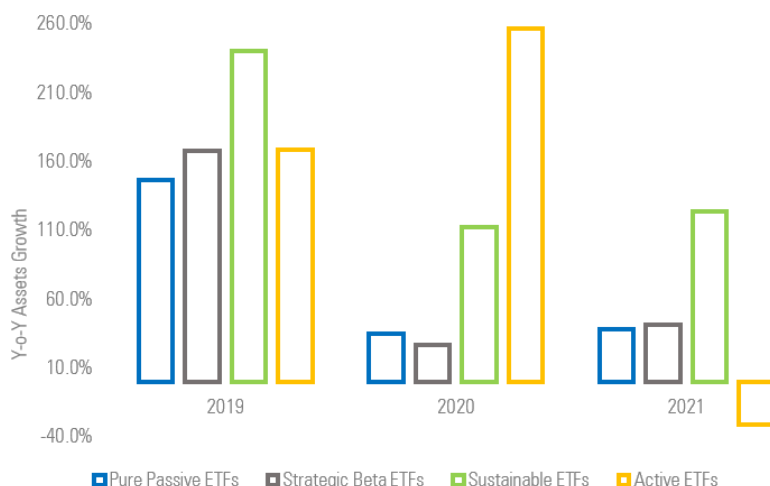
In terms of net flows, Vanguard, BetaShares, and iShares continued their dominance, capturing more than three fourths (77.7%) of the total net inflows. Vanguard retained the crown as the most popular ETF provider amassing AUD7.1 billion in net inflows or over one third (34.4%) of the total net inflows into the Australian ETF market.

The Australian large-cap blend Morningstar Category remained the top choice among the investors for ETF exposure, receiving AUD4.3 billion of net inflows in 2021 (although this was lower than last year). But investors' bias away from home was evident in the asset flow pattern in 2021. The cumulative net flows into global equities (the world large blend, North America, and world other categories) were AUD2.2 billion higher than the net flows into the Australian large-cap blend category. European exposure experienced a turnaround with the net inflow into the equity Europe category spiking up to AUD347 million in 2021, reversing 2020's net outflow of AUD55.6 million.

The global trend of ESG-focused investing continues to be embraced locally. This enthusiasm was reflected in the doubling of 2020's net inflows with AUD2.8 billion going into the sustainable ETF cohort in 2021. This was 13.5% of all net flows into the Australia-domiciled ETFs. BetaShares and Vanguard were at the forefront of investors' surging demand for ESG strategies. BetaShares Global Sustainability Leaders ETF, BetaShares Australian Sustainability Leaders ETF, and Vanguard Ethically Consious International Shares ETF received the highest inflows among the sustainable ETFs currently in the market.

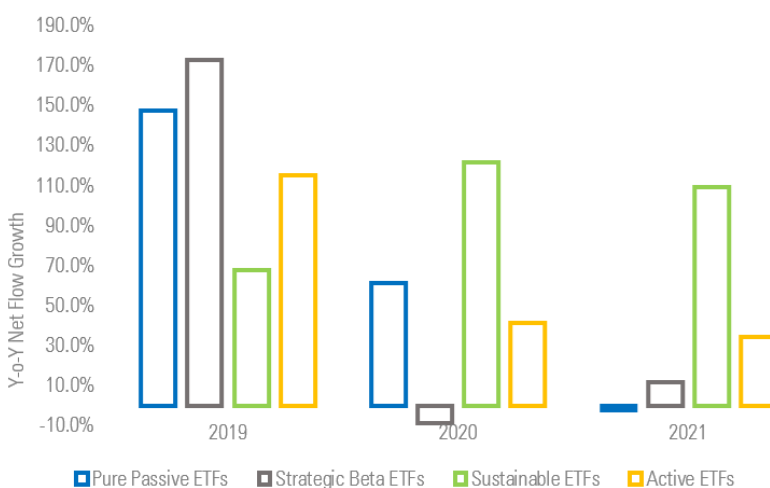
Interestingly, the year-on-year asset growth rates for ESG strategies roared past passive products and strategic-beta vehicles (see Exhibit 3); admittedly, however, it was off a small base. Net flow growth in active and sustainable ETFs was at the expense of flows into pure passive ETFs. Following a dip in 2020, strategic-beta¹ ETFs had a modest gain in 2021. Quality factor ETFs dwarfed other strategic-beta products in gathering approximately 61.0% of the total strategic-beta net flows.

Exhibit 3: Assets Growth in ETF Cohort



Source: Morningstar Direct, Morningstar Research. Data as of 31 Dec 2021.

Exhibit 4: Net Flow Growth in ETF Cohort



Source: Morningstar Direct, Morningstar Research. Data as of 31 Dec 2021.

¹Strategic-beta ETFs are the set of strategies tracking indexes that apply systematic and rules-based approaches to select stocks based on a single or combination of multiple factors instead of simply constructing portfolios based on market capitalization (examples include growth, quality, value, momentum, low volatility, and high dividend).

Investors' exuberance toward specialised offerings like Australia large-cap geared decelerated in 2021 as investors withdrew AUD16.6 million out of the category. 2021 was marked by the rise in growth and inflation concerns, especially toward the later half of the year. As such, there was a rotation away from local growth-focused strategies, with the Australia equity large-growth category experiencing a marginal net outflow of AUD17.7 million.

New Launches

BetaShares and VanEck tapped into the trend for specialty and narrowly focused ETFs with a number of successful launches in 2021. The popular areas for growth have been ESG and disruptive technologies. Four of the strategies introduced last year have crossed AUD100 million in assets, notably the BetaShares crypto product, which was only launched in November. The sustainable and active ETF launch pipeline remained strong as 12 new ETFs (sustainable and active) were introduced to the market in 2021.

Exhibit 5: New Launches 2021

ETF	Inception Date	Ticker	Index Fund	Strategic Beta	Sustainable ETF	FUM (AUD Mn) As of Dec 2021
Apostle Dundas Global Equity Fund D ETF	Feb-21	ADEF	No	No		11.8
BetaShares Cloud Computing ETF	Feb-21	CLDD	Yes	No		71.0
VanEck Global Clean Energy ETF	Mar-21	CLNE	Yes	No	Yes	114.4
VanEck MSCI Intl Sm Com Qual ETF	Mar-21	QSMML	Yes	Yes	No	31.3
VanEck MSCI Intl Val ETF	Mar-21	VLUE	Yes	Yes	No	116.7
BetaShares Climate Change Innovation ETF	Mar-21	ERTH	Yes	No	Yes	196.0
Betashares Aust Mjr Bnk Hyb Idx ETF	Apr-21	BHYB	Yes	No	No	90.4
Monash Absolute Active ETF	May-21	MAAT	No	No		30.6
Magellan FuturePay ETF	Jun-21	FPAY	No	No	No	*
iShares Core MSCI Australia ESG Ldrs ETF	Jun-21	IESG	Yes	No	Yes	87.4
VanEck Bentham Global Cap Secs Actv ETF	Aug-21	GCAP	No	No	No	21.8
ETFS Semiconductor ETF	Aug-21	SEMI	Yes	No	No	94.3
Janus Henderson Global Sust Eq Actv ETF	Sep-21	FUTR	No	No	Yes	2.0
Loomis Sayles Global Equity Quoted Mgd	Oct-21	LSGE	Yes	No	No	17.5
ETFS Hydrogen ETF	Oct-21	HGEN	Yes	No	Yes	86.9
ETFS Fintech & Blockchain ETF	Oct-21	FTEC	Yes	No		10.3
BetaShares Crypto Innovators ETF	Nov-21	CRYP	Yes	No	No	122.7
VanEck Global Listed Private Equity ETF	Nov-21	GPEQ	Yes	No	No	11.6
Perpetual Ethical SRI ETF E	Nov-21	GIVE	No	No	Yes	2.0
Perpetual Global Innovation Share ETF E	Nov-21	IDEA	No	No	No	1.4
Munro Concentrated Global Growth ETF	Dec-21	MCGG	No	No		0.0
BetaShares Electric Vhcl & Fut Mbly ETF	Dec-21	DRIV	Yes	No	No	5.9
BetaShares Future of Payments ETF	Dec-21	IPAY	Yes	No	No	4.7

Source: Morningstar Direct, Morningstar Research. Data as of 31 Dec 2021. *Data not available.

Fees

Investors are increasingly becoming price-sensitive with significant inflows going into products with low fees. It is unsurprising that the average new dollar is going into low-cost ETFs. A drop in the net flow weighted average fee of ETFs* over the trailing three years is a testimony to this. This is especially the case for equity products (as shown in Exhibit 7). The net flow weighted average cost of equity ETFs has dropped from 0.45% per year to 0.37% per year (approximately) over past three calendar years. Interestingly, fixed-income ETFs have dodged the trend, as money moved to more expensive products (Exhibit 7).

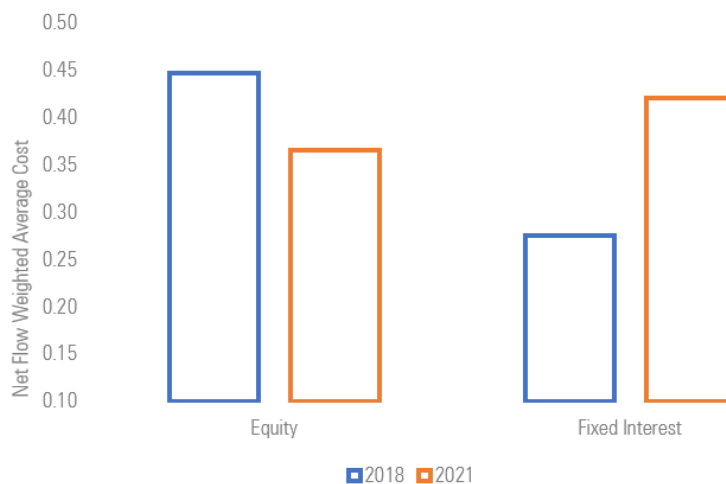
Exhibit 6: Fees Comparison for ETF Cohort

	Simple Average	Asset Weighted Average
Pure Passive ETFs	0.41	0.18
Strategic Beta ETFs	0.46	0.35
Sustainable ETFs	0.56	0.43
Active ETFs	0.86	1.13

Source: Morningstar Direct, Morningstar Research. Data as of 31 Dec 2021.

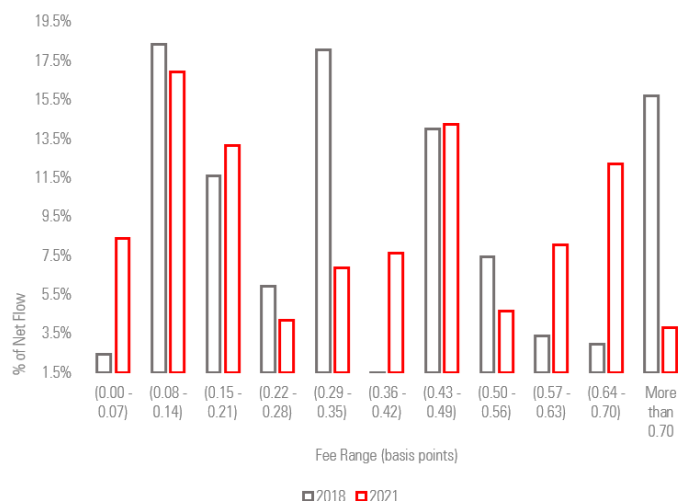
*Net flow weighted average cost of ETF = sum of (fees x net flows) / total net flow into ETFs

Exhibit 7: Net Flow Adjusted Average Cost



Source: Morningstar Direct, Morningstar Research. Data as of 31 Dec 2021.

Exhibit 8: Equity Strategies' Fee Range (in Basis Points), Net Flow Distribution 2021 vs. 2018



Source: Morningstar Direct, Morningstar Research. Data as of 31 Dec 2021.

Performance

As the domestic- and global-equity markets delivered higher double-digit returns, leveraged products and international-equity ETFs had a terrific 2021. As most major global economies have opened up following the protracted and brutal coronavirus-induced lockdown, economic activities picked up last year, and sectors like global real estate and infrastructure rebounded strongly. On the flip side, the impending rise in interest rates and inflation weighed on the fixed-interest ETFs' performance last year.

Exhibit 9: Category Performance

Top Performance Category	2021 Return %
Australia Fund Equity Australia Large Geared	37.4
Australia Fund Equity North America	34.4
Australia Fund Equity Global Real Estate	32.7
Australia Fund Equity World Large Value	25.6
Australia Fund Equity Global Infrastructure	25.6
Bottom Performance Category	2021 Return %
Australia Fund Alternative - Other	-7.9
Australia Fund Bonds - Global / Australia	-3.4
Australia Fund Bonds - Australia	-3.0
Australia Fund Bonds - Global	-2.8
Australia Fund Equity Asia Pacific w/o Japan	-2.7

Source: Morningstar Direct, Morningstar Research. Data as of 31 Dec 2021.

Looking Ahead

Rapid growth in the ETF industry has opened up multiple avenues for investors to invest according to their style, philosophy, and outlook. But the surge in ETF demand has led to product proliferation. To stay relevant and address investors' ever-changing preferences, product innovation has been directed toward the niche and narrow segments of the market, which are often newly explored, under-researched, and may be focused on just one specific theme. As such, investors may often get exposure via an obscure rules-based index from a little-known index provider. As product innovation is perceived to remain theme-based, investors should be wary of the risk/return imbalance that such products exhibit.

So, what should be an investor's approach? For starters, careful due diligence before investing has become more critical than ever. Many strategies focus on specific themes that often only capture the fleeting interest of investors. At Morningstar we see that 'investment merit' is of key importance. We suggest that investors should try to avoid fads and focus on long-term, well-diversified options at the cheapest possible price. This remains, in our view, a core principle of ETF investing.

ETF Market Data as of 31 December 2021

ETF	Inception Date	Ticker	Strategic Beta	Net Assets (AUD Mn)	Fee	1 Yr Net Flow	3 Yrs Net Flow	Morningstar Analyst Rating
AB Managed Volatility Equities ETF MVE	Mar.14	AMVE	No		0.55			
Activex Ardea Real Outcome Bond ETF	Dec.18	XARO	No	899.6	0.5	475.7	907.1	Bronze
ActiveX Kapstream Absolute Ret Inc ETF	Oct.19	XKAP	No	11.7	0.55	5.3		
Airlie Australian Share ETF	May.18	AASF	No		0.78			
Antipodes Global Shares ETF	Nov.18	AGX1	No	546.3	1.1	-145.9	-148.3	Bronze
Apostle Dundas Global Equity Fund D ETF	Feb.21	ADEF	No	11.8	0.9	9.8		
BetaShares Active Australian Hybrids ETF	Nov.17	HBRD	No	1612.4	0.55	635.7	1372.2	
BetaShares Asia Technology Tigers ETF	Sep.18	ASIA	No	610.4	0.67	172.2	582.3	
BetaShares Aus Bank Sr Fltng Rt Bd ETF	Jun.17	QPON	No	685.5	0.22	-66.3	257.4	
BetaShares Aus Equities Bear Hedge ETF	Jul.12	BEAR	No	54.8	1.38	-9.2	54.2	
BetaShares Aus Ex-20 Port Divrs ETF	Oct.16	EX20	No	238.7	0.25	45.8	91.5	
BetaShares Aus High Interest Cash ETF	Mar.12	AAA	No	2629.9	0.18	526.3	1377.4	Neutral
BetaShares Aus Inv Grd Corp Bd ETF	May.18	CRED	Yes	521.8	0.25	67.2	395.9	
BetaShares Aus Top 20 Eq Yld Mxmsr ETF	Nov.12	YMAX	No	335.4	0.76	31.1	-13.4	
Betashares Aust Mjr Bnk Hyb Idx ETF	Apr.21	BHYB	No	90.4	0.35			
BetaShares Australia 200 ETF	May.18	A200	No	1996.1	0.07	957	1568.6	Bronze
BetaShares Australian Composite Bond ETF	Feb.22	OZBD	Yes					
BetaShares Australian Div Harvester ETF	Oct.14	HVST	No	175.3	0.9	33.6	11.5	
BetaShares Australian Eqs Strong BrH ETF	Apr.15	BBOZ	No	273.6	1.38	31.8	558	
BetaShares Australian Fincls Sect ETF	Dec.10	QFN	No	62.3	0.34	11.2	18	
BetaShares Australian Government Bd ETF	Jul.19	AGVT	No	199.6	0.22	139		
BetaShares Australian Res Sect ETF	Dec.10	QRE	No	96	0.34	11.6	30.4	
BetaShares Australian Small Coms Sel ETF	Apr.17	SMLL	No	76.4	0.39	18	33	
BetaShares Australian Sustnby Ldrs ETF	Nov.17	FAIR	No	1342.4	0.49	350	920	Bronze
BetaShares British Pound ETF	Jul.11	POU	No	16.6	0.45	0.4	-2.4	
BetaShares Climate Change Innovation ETF	Mar.21	ERTH	No	196	0.65			
BetaShares Cloud Computing ETF	Feb.21	CLDD	No	71	0.67	69.5		
BetaShares Crude Oil ETF Ccy Hgd(Synth)	Nov.11	OOO	No	205.2	0.69	-91.8	21.5	
BetaShares Crypto Innovators ETF	Nov.21	CRYP	No	122.7				
BetaShares Diversified High Growth ETF	Dec.19	DHGF	No	135.3	0.19	118.4		
BetaShares Electric Vhcl & Fut Mblty ETF	Dec.21	DRIV	No	5.9	0.67			
BetaShares Ethical Divers High Gr ETF	Dec.19	DZZF	No	28.9	0.43	24.8		
BetaShares Ethical Diversified Bal ETF	Dec.19	DBBF	No	13.4	0.43	9.1		
BetaShares Ethical Diversified Gr ETF	Dec.19	DGGF	No	19.8	0.42	15		
BetaShares Euro ETF	Jul.11	EEU	No	9.8	0.45	6.7	4.7	
BetaShares Europe ETF-Ccy Hdg	May.16	HEUR	No	56.4	0.56	10.8	0.8	
BetaShares FTSE 100 ETF	Jul.19	F100	No	418.2	0.45	122.2		
BetaShares FTSE RAFI Australia 200 ETF	Jul.13	QOZ	Yes	403.1	0.4	35.8	105.3	Bronze
BetaShares Future of Payments ETF	Dec.21	IPAY	No	4.7	0.67			
BetaShares Geared Australian Equity ETF	Apr.14	GEAR	No	341.5	0.8	4.6	106.4	
BetaShares Geared US Eq Ccy Hdg ETF	Aug.15	GGUS	No	138.3	0.8	39.9	46.3	
BetaShares Glb Agtr Coms ETF-Ccy Hdg	Aug.16	FOOD	No	60.8	0.67	34.7	35.7	
BetaShares Glb Banks ETF-Ccy Hdg	Jul.16	BNKS	No	112.7	0.67	72.4	46.2	
BetaShares Glb Energy Coms ETF-Ccy Hdg	Jun.16	FUEL	No	348	0.67	-29.3	213.1	
BetaShares Glb Gold Miners ETF-Ccy Hdg	Jul.16	MNRS	No	58.4	0.67	4.9	59.6	
BetaShares Glb Healthcare ETF-Ccy Hdg	Aug.16	DRUG	No	169.4	0.67	56.5	106.7	
BetaShares Glb Rbtic & Artfcl Intlgc ETF	Sep.18	RBZT	No	221.4	0.57	84.3	168.8	
BetaShares Global Cybersecurity ETF	Aug.16	HACK	No	777.9	0.67	263.3	438.1	
BetaShares Global Gov Bd 20+Yr ETF Ccy H	May.20	GGOV	No	3.6	0.22	-0.1		
BetaShares Global Income Leaders ETF	Oct.18	INCM	Yes	20.4	0.45	2.1	19.6	
BetaShares Global Quality Ldrs ETF Ccy H	Jun.20	HQLT	Yes	37.7	0.38	20.6		
BetaShares Global Quality Leaders ETF	Nov.18	QLTY	Yes	249.3	0.35	143.6	250.6	
BetaShares Global Sstnby Ldrs ETF	Jan.17	ETHI	No	2178.2	0.59	739.7	1378.4	Bronze

ETF	Inception Date	Ticker	Strategic Beta	Net Assets (AUD Mn)	Fee	1 Yr Net Flow	3 Yrs Net Flow	Morningstar Analyst Rating
BetaShares Global Sstnby Ldrs ETF Ccy H	Jul.20	HETH	No	176	0.62	66.7		
BetaShares Gold Bullion ETF Ccy Hedged	May.11	QAU	No	306.7	0.59	-27.8	221.2	
BetaShares India Quality ETF	Aug.19	IIND	Yes	77.5	0.8	28.1		
BetaShares Japan ETF-Ccy Hdg	May.16	HJPN	No	100.8	0.56	42.3	31.5	
BetaShares Managed Risk AUS Shr ETF	Nov.15	AUST	No	22	0.49	-19.9	-21	
BetaShares Managed Risk Global Share ETF	Dec.15	WRLD	No	35.3	0.54	-32.2	-34.5	
BetaShares Martin Currie Em Mkts ETF	May.19	EMMG	No	101.2	1	87.3		Neutral
BetaShares Martin Currie Equity Inc ETF	Feb.18	EINC	No	26.8	0.85	-5.4	3.6	
BetaShares Martin Currie Real Income ETF	Feb.18	RINC	No	66.4	0.85	8.3	44	Neutral
BetaShares NASDAQ 100 ETF	May.15	NDQ	No	2796.2	0.48	717.4	1423.6	
BetaShares NASDAQ 100 ETF Ccy H	Jul.20	HNDQ	No	123.1	0.51	34.5		
BetaShares Online Retail and E-cmmrc ETF	Feb.22	IBUY	No					
BetaShares S&P 500 Equal Weight ETF	Dec.14	QUS	Yes	212.8	0.4	94.8	121.7	Neutral
BetaShares S&P 500 Yield Maximiser ETF	Sep.14	UMAX	No	134	0.79	17.7	18	
BetaShares S&P/ASX Australian Tech ETF	Mar.20	ATEC	No	207.8	0.48	18.9		
BetaShares Sstby Ldrs Dvrs Bd ETF Ccy Hd	Nov.19	GBND	No	181.8	0.49	81.1		
BetaShares Strong Australian Dlr H ETF	Nov.16	AUDS	No	8.2	1.38	-4.3	4.8	
BetaShares Strong US Dollar Hedge ETF	Nov.16	YANK	No	10.3	1.38	-0.1	3.1	
BetaShares US Dollar ETF	Jan.11	USD	No	141.6	0.45	-7.7	-196.6	
BetaShares US Eqs Strong Bear H CcyH ETF	Aug.15	BBUS	No	171.8	1.38	93.2	475.2	
BetaShares Video Games and Esports ETF	Feb.22	GAME	No					
BetaShares Western Asset Aus Bd ETF	Nov.18	BNDS	No	195.1	0.42	38.6	159.4	Silver
Coolah Active Composite Bond Fund ETF	Mar.17	FIXD	No		0.57			
Daintree Hybrid Opportunities ETF	Feb.20	DHOF	No					
eInvest Better Future (Managed Fund)	Jun.19	IMPQ	No	37.8	0.99	31.1		
eInvest Core Income ETF	Nov.19	ECOR	No		0.45	14.2		
eInvest Income Generator ETF	May.18	EIGA	No	31	0.8	2.2	3.6	
eInvest Income Maximiser ETF	Nov.19	EMAX	No	2.6	0.65	0.4		
ETFS Battery Tech and Lithium ETF	Aug.18	ACDC	No	503.8	0.69	375.1	461.5	
ETFS EURO STOXX 50® ETF	Jul.16	ESTX	No	73.6	0.35	16.6	-2.5	
ETFS FANG+ ETF	Feb.20	FANG	No	259.6	0.35	48.2		
ETFS Fintech & Blockchain ETF	Oct.21	FTEC	No	10.3				
ETFS Hydrogen ETF	Oct.21	HGEN	No	86.9				
ETFS Morningstar Global Technology ETF	Apr.17	TECH	Yes	393.1	0.45	93.7	206.9	
ETFS Physical Gold ETC	Mar.03	GOLD	No	2372	0.4	299.3	1495.8	
ETFS Physical Palladium ETC	Dec.08	ETPMPD	No	8.6	0.49	-1.9	5	
ETFS Physical Platinum ETC	Dec.08	ETPMPT	No	14.5	0.49	4.6	13.2	
ETFS Physical PM Basket ETC	Dec.08	ETPPMP	No	30.4	0.45	13.1	22.8	
ETFS Physical Silver ETC	Dec.08	ETPMAG	No	225.4	0.49	32	133.9	
ETFS Reliance India Nifty 50 ETF	Jun.19	NDIA	No	33.8	0.69	15.9		
ETFS ROBO Gbl Robotics and Atmtn ETF	Sep.17	ROBO	No	295	0.69	65.4	70.1	
ETFS S&P 500 High Yield Low Volatil ETF	Jun.15	ZYUS	Yes	69.7	0.35	-12.9	13.3	
ETFS S&P Biotech ETF	Nov.18	CURE	No	56.7	0.45	32.8	62.3	
ETFS S&P/ASX 300 High Yield Plus ETF	Jun.15	ZYAU	Yes	95.6	0.35	-21.6	15.6	
ETFS Semiconductor ETF	Aug.21	SEMI	No	94.3	0.57			
ETFS Ultra Long Nasdaq 100 Hedge	Jul.20	LNAS	No	21.9	0.44	16.6		
ETFS Ultra Short Nasdaq 100 Hedge	Jul.20	SNAS	No	16.8		14.2		
Fat Prophets Global High Convct Hdg ETF	Jan.22	FATP	No					
Fidelity Global Demographics ETF	Nov.12	FDEM	No	121.6				
Fidelity Global Emerging Markets ETF	Oct.18	FEMX	No	226.6	0.99	28.4	170.9	Neutral
Hyperion Global Growth Companies ETF	Jun.14	HYGG	No	514.2	3.33			Bronze
Intelligent Investor AUS Eq Inc ETF	Jun.18	INIF	No	77.1	0.97	23.6	22.6	
Intelligent Investor Aust Eq Gr ETF	Oct.20	IIGF	No	101.3	0.97	32.9		

ETF	Inception Date	Ticker	Strategic Beta	Net Assets (AUD Mn)	Fee	1 Yr Net Flow	3 Yrs Net Flow	Morningstar Analyst Rating
Intelligent Investor Ethical Share ETF	Jun.19	INES	No	67.3	0.97	54.6		
iShares Asia 50 ETF (AU)	Nov.07	IAA	No	789	0.5	107.2	204.5	Bronze
iShares China Large-Cap ETF (AU)	Oct.04	IZZ	No	182.8	0.74	124.1	143.9	
iShares Core Cash ETF	Jun.17	BILL	No	339	0.07	-215.4	-5.2	
iShares Core Composite Bond ETF	Mar.12	IAF	No	1865.2	0.15	205.4	1126	Silver
iShares Core Corporate Bond ETF	May.20	ICOR	No	28.4	0.15	15.5		
iShares Core Global Corp Bd AUDH ETF	Dec.15	IHCB	No	310.2	0.26	-57.9	145.4	Neutral
iShares Core MSCI Australia ESG Ldrs ETF	Jun.21	IESG	No	87.4				
iShares Core MSCI Wld Ex Aus ESG LdrsETF	Apr.16	IWLD	No	390.8	0.09	210.3	271.6	Gold
iShares Core MSCI WldExAusESGLdrsAUHDEF	Apr.16	IHWL	No	268.3	0.12	-46.6	140.4	Gold
iShares Core S&P/ASX 200 ETF	Dec.10	IOZ	No	4965.9	0.09	203.4	2544.1	Bronze
iShares Edge MSCI Australia Mini Vol ETF	Oct.16	MVOL	Yes	31	0.3	-45.4	23.9	
iShares Edge MSCI Australia Mltfctr ETF	Oct.16	AUMF	Yes	44.6	0.3	14.1	25	
iShares Edge MSCI World Minimum Vol ETF	Oct.16	WVOL	Yes	231.8	0.3	86.6	167.1	
iShares Edge MSCI World Multifactor ETF	Oct.16	WDMF	Yes	187.9	0.35	-34.2	-75.1	Silver
iShares Enhanced Cash ETF	Jun.17	ISEC	No	243.3	0.12	141.6	270.9	
iShares Europe ETF (AU)	Oct.07	IEU	No	955	0.59	304.5	112.2	Neutral
iShares Global 100 AUD Hedged ETF	Dec.14	IH00	No	153	0.43	23.8	71.1	Bronze
iShares Global 100 ETF (AU)	Oct.07	IOO	No	2712	0.4	125	165.2	Bronze
iShares Global Consumer Staples ETF (AU)	Mar.09	IXI	No	151.4	0.46	11.8	-29.5	
iShares Global Healthcare ETF (AU)	Mar.09	IXJ	No	1130.9	0.46	117	295.9	
iShares Global High Yield Bond AUDH ETF	Dec.15	IHHY	No	128.5	0.56	90.3	158.1	
iShares Government Inflation ETF	Mar.12	ILB	No	346.9	0.18	138.6	254.8	
iShares JP Morgan USD EmMkts Bd AUDH ETF	Dec.15	IHEB	No	43.4	0.51	25.9	87.4	
iShares MSCI EAFE ETF (AU)	Aug.01	IVE	No	444.6	0.32	1	10.8	Bronze
iShares MSCI Emerging Markets ETF (AU)	Apr.03	IEM	No	942.7	0.68	94.4	241.1	Bronze
iShares MSCI Japan ETF (AU)	Mar.96	IJP	No	428.1	0.49	77	103.5	
iShares MSCI South Korea ETF (AU)	May.00	IKO	No	46	0.63	-14.5	-29.1	
iShares S&P 500 AUD Hedged ETF	Dec.14	IHWV	No	700.7	0.1	-173	279	Silver
iShares S&P 500 ETF	May.00	IVV	No	5552.2	0.04	597.4	622.6	Silver
iShares S&P Mid-Cap ETF	Oct.07	IJH	No	239	0.07	37.2	26.2	
iShares S&P Small-Cap ETF	Oct.07	IJR	No	472.6	0.1	171.4	225.4	
iShares S&P/ASX 20 ETF	Dec.10	ILC	No	443.5	0.24	24.4	50.7	Bronze
iShares S&P/ASX Dividend Opps ETF	Dec.10	IHD	Yes	295.6	0.3	0.9	36	Neutral
iShares S&P/ASX Small Ordinaries ETF	Dec.10	ISO	No	156	0.55	51.9	52.2	Neutral
iShares Treasury ETF	Mar.12	IGB	No	144.4	0.18	-1.7	13.5	
iShares Yield Plus ETF	May.20	IYLD	No	11.6	0.12	-3.1		
Janus Henderson Global Sust Eq Actv ETF	Sep.21	FUTR	No	2				
Janus Henderson Tactical Income Actv ETF	Jul.20	TACT	No	98.1	0.45			
K2 Australian Small Cap ETF	Dec.15	KSM	No	16.1	3.24	3.2	-11.7	
Loftus Peak Global Disruption Mgd Fd ETF	Apr.02	LPGD	No					
Loomis Sayles Global Equity Quoted Mgd	Oct.21	LSGE	No	17.5				
Magellan FuturePay ETF	Jun.21	FPAY	No		1.52			
Magellan Global Active ETF	Jun.07	MGOC	No		1.45			Under Review
Magellan Global Equities Currency H ETF	Aug.15	MHG	No	317.6	1.47	-45.2	153.3	Under Review
Magellan High Conviction ETF	Oct.19	MHHT	No		2.43			
Magellan Infrastructure Cy Hdg ETF	Jul.16	MICH	No	915.4	1.12	92.7	614.1	Gold
Magellan Sustainable ETF	Dec.20	MSUF	No	9.6	1.35	2		
MFG Core ESG ETF	Dec.20	MCSE	No		0.5			
MFG Core Infrastructure ETF	Dec.09	MCSI	No		0.5			
MFG Core International ETF	Dec.20	MCSG	No		0.5			
Monash Absolute Active ETF	May.21	MAAT	No	30.6				
Montaka Global Extension ETF	Jun.20	MKAX	No	44		-1		

ETF	Inception Date	Ticker	Strategic Beta	Net Assets (AUD Mn)	Fee	1 Yr Net Flow	3 Yrs Net Flow	Morningstar Analyst Rating
Montaka Global Long Only Equities ETF	Dec.17	MOGL	No	83.7	1.97	-13.9	-26.3	
Morningstar International Shrs Actv ETF	Aug.19	MSTR	No	148.8	0.39			
Munro Climate Change Leaders ETF	Jan.22	MCCL	No					
Munro Concentrated Global Growth ETF	Dec.21	MCGG	No					
Munro Global Growth ETF	Nov.20	MAET	No	197.5		170.9		
Perpetual Ethical SRI ETF E	Nov.21	GIVE	No	2				
Perpetual Global Innovation Share ETF E	Nov.21	IDEA	No	1.4				
Perth Mint Gold ETF	May.03	PMGOLD	No	609.8	0.15	29.1		
Platinum Asia ETF	Sep.17	PAXX	No	134.7	1.1			Silver
Platinum International ETF	Sep.17	PIXX	No	354	1.1			Bronze
Resolution Capital Global Prpty Sec ETF	Sep.08		No					
Russell Inv Australian Government Bd ETF	Mar.12	RGB	No	77	0.24	-3.2	12.4	
Russell Inv Australian Rspnb Inv ETF	Apr.15	RARI	Yes	282.8	0.45	-19.9	144	
Russell Inv Australian Select CorpBd ETF	Mar.12	RCB	No	284.6	0.28	30.6	82.5	
Russell Inv Australian Semi-Govt Bd ETF	Mar.12	RSM	No	60.8	0.26	-8.7	-5.1	
Russell Inv High Dividend Aus Shrs ETF	May.10	RDV	Yes	262	0.34	-29.8	-39.4	Neutral
Schroder Absolute Return Income ETF	Nov.19	PAYS	No	61.3	0.54	31.4		
Schroder Real Return (Managed Fund)	Aug.16	GROW	No	66	0.93	24.4	10.3	Neutral
SelfWealth SMSF Leaders ETF	Nov.19	SELF	Yes	4.3	0.88	-102.5		
SPDR® Dow Jones Global Real Estate ETF	Nov.13	DJRE	No	495.5	0.5	4.7	124.2	Bronze
SPDR® MSCI Australia Sel Hi Div Yld ETF	Sep.10	SYI	Yes	279	0.35	47.7	86.8	Neutral
SPDR® MSCI World Quality Mix ETF	Sep.15	QMIX	Yes	30.9	0.4	1.5	12.7	Silver
SPDR® S&P 500 ETF	Jan.93	SPY	No	114.3	0.09			
SPDR® S&P Emerging Markets ETF	Nov.13	WEMG	No	21	0.65	1	1.9	
SPDR® S&P Global Dividend ETF	Nov.13	WDIV	Yes	350.4	0.5	26.1	128.4	Neutral
SPDR® S&P World ex Australia ETF	Mar.13	WXOZ	No	299.4	0.18	14.7	22.9	Bronze
SPDR® S&P World ex Australia(Hedged) ETF	Jul.13	WXHG	No	149.8	0.21	7.7	16.7	Silver
SPDR® S&P/ASX 200 ESG ETF	Jul.20	E200	No	36.4		16		
SPDR® S&P/ASX 200 ETF	Aug.01	STW	No	4813.2	0.13	11.4	82.4	Bronze
SPDR® S&P/ASX 200 Fincls EX A-REIT ETF	Apr.11	OZF	No	131.9	0.34	7.6	38.8	
SPDR® S&P/ASX 200 Listed Property ETF	Feb.02	SLF	No	707.4	0.4	-22.3	9.9	Bronze
SPDR® S&P/ASX 200 Resources ETF	Apr.11	OZR	No	124.8	0.34	14.9	30.3	
SPDR® S&P/ASX 50 ETF	Aug.01	SFY	No	776.9	0.29	-14	86.9	Bronze
SPDR® S&P/ASX Australian Bond ETF	Jul.12	BOND	No	48.9	0.24	2.2	16.9	
SPDR® S&P/ASX Australian Govt Bd ETF	Jul.12	GOVT	No	29.7	0.22	2.5	13.2	
SPDR® S&P/ASX Small Ordinaries ETF	Apr.11	SSO	No	32.9	0.5	2.3	3.5	Neutral
Switzer Dividend Growth ETF	Feb.17	SWTZ	No	74.2	0.89	-16.4	-15.1	
Switzer Higher Yield ETF	Dec.20	SHYF	No					
Talaria Global Equity Currency Hdg ETF	Dec.12	TLRH	No	59.7				
Talaria Global Equity ETF	Aug.08	TLRA	No	493.8				
VanEck Australian Banks ETF	Oct.13	MVB	No	193.1	0.28	40.4	105.3	
VanEck Australian Corp Bd+ ETF	May.17	PLUS	Yes	235.9	0.32	-16.1	-40.5	
VanEck Australian Equal Wt ETF	Mar.14	MVW	Yes	1771.3	0.35	137.9	759.1	Silver
VanEck Australian Fltng Rt ETF	Jul.17	FLOT	No	337.7	0.22	60.5	176.3	
VanEck Australian Property ETF	Oct.13	MVA	No	665.9	0.35	121.9	382	Bronze
VanEck Australian Resources ETF	Oct.13	MVR	No	141.4	0.35	-2.2	56.9	
VanEck Australian Sbdntd Dbt ETF	Oct.19	SUBD	No	266.1	0.29	137.7		
VanEck Bentham Global Cap Secs Actv ETF	Aug.21	GCAP	No	21.8				
VanEck China New Economy ETF	Nov.18	CNEW	Yes	162.7	0.95	-28.1	111.2	
VanEck Emerging Income Opps Actv ETF	Feb.20	EBND	No	133.6	0.95	94.8		
VanEck FTSE China A50 ETF	Jun.15	CETF	No	23.3	0.6	0.1		
VanEck FTSE Gbl Infrs(Hdg)ETF	Apr.16	IFRA	No	597.1	0.52	200.7	444.1	Neutral
VanEck FTSE Intl Prop Hdg ETF	Mar.19	REIT	No	203.5	0.43	107.5		Bronze

ETF	Inception Date	Ticker	Strategic Beta	Net Assets (AUD Mn)	Fee	1 Yr Net Flow	3 Yrs Net Flow	Morningstar Analyst Rating
VanEck Global Clean Energy ETF	Mar.21	CLNE	No	114.4	0.65			
VanEck Global Hlthcr Ldrs ETF	Sep.20	HLTH	Yes	79.2		35		
VanEck Global Listed Private Equity ETF	Nov.21	GPEQ	No	11.6				
VanEck Gold Miners ETF	Jun.15	GDX	No	469.3	0.53	121.7	369.8	
VanEck Morningstar Wide Moat ETF	Jun.15	MOAT	Yes	424.2	0.49	164.8	256.5	
VanEck Mrngstr WldexAustWdMtETF	Sep.20	GOAT	Yes	25.6		12.2		
VanEck MSCI AUS Sust Eq ETF	Apr.16	GRNV	No	103.1	0.35	11	85.2	
VanEck MSCI Intl Sm Com Qual ETF	Mar.21	QSML	Yes	31.3	0.59			
VanEck MSCI Intl Sust Eq ETF	Mar.18	ESGI	No	130.3	0.55	53.7	84.1	
VanEck MSCI Intl Val ETF	Mar.21	VLUE	Yes	116.7				
VanEck MSCI Mltfac EmMkts Eq ETF	Apr.18	EMKT	Yes	57.8	0.69	12.8	35.6	
VanEck MSCI Wld ex Aus Qlty ETF	Oct.14	QUAL	Yes	2813.1	0.4	694.2	1530.6	Silver
VanEck MSCI Wld ex AUS Qul H ETF	Mar.19	QHAI	Yes	430.6	0.43	52.3		Silver
VanEck S&P/ASX MidCap ETF	Oct.13	MVE	No	186.4	0.45	-20.6	23.2	
VanEck Vectors Mrngstr Aust Mt Inc ETF	Sep.20	DVDY	Yes	78.9		44.1		
VanEck Vectors Small Coms Masters ETF	May.15	MVS	Yes	50.4	0.49	-47	-27	
VanEck Video Gaming & eSprts ETF	Sep.20	ESPO	No	106.9		30.8		
Vanguard All-World ex-US Shares ETF	May.09	VEU	No	2438.1	0.08			Bronze
Vanguard Australian Corp Fxd Intr ETF	May.16	VACF	No	674	0.2	200.3	488.8	Neutral
Vanguard Australian Fixed Interest ETF	Oct.12	VAF	No	1380	0.15	-126.9	557.6	Silver
Vanguard Australian Government Bond ETF	Apr.12	VGB	No	540	0.2	-19.6	364.4	Bronze
Vanguard Australian Property Secs ETF	Oct.10	VAP	No	2627.3	0.23	320.4	933.3	Silver
Vanguard Australian Shares ETF	May.09	VAS	No	10131.1	0.1	1871	4967	Bronze
Vanguard Australian Shares High Yld ETF	May.11	VHY	Yes	2049.2	0.25	272.7	623.2	Bronze
Vanguard Diversified Balanced ETF	Nov.17	VDBA	No	622.5	0.27	251.3	513.7	Silver
Vanguard Diversified Conservative ETF	Nov.17	VDCO	No	263.7	0.27	110.6	230	Bronze
Vanguard Diversified Growth ETF	Nov.17	VDGR	No	609.5	0.27	220.2	467.5	Silver
Vanguard Diversified High Growth ETF	Nov.17	VDHG	No	1614	0.27	809.1	1336.4	Silver
Vanguard Etlly Cons Gbl Aggt Bd H ETF	Sep.18	VEFI	No	88.3	0.26	43.4	89.7	
Vanguard Etlly Cons Intl Shrs ETF	Sep.18	VESG	No	643.6	0.18	369.9	557.2	
Vanguard Ethically Cnscs Aust Shrs ETF	Oct.20	VETH	No	339.3	0.16	299.9		Bronze
Vanguard FTSE Asia ex Japan Shrs ETF	Dec.15	VAE	No	400.6	0.4	106.9	238.5	
Vanguard FTSE Emerging Markets Shrs ETF	Nov.13	VGE	No	669.6	0.48	160.7	331.2	Bronze
Vanguard FTSE Europe Shares ETF	Dec.15	VEQ	No	318.8	0.35	44.3	50.6	
Vanguard Global Aggregate Bd Hdg ETF	Oct.17	VBND	No	459.9	0.2	173.3	452.7	Bronze
Vanguard Global Infrastructure ETF	Oct.18	VBLD	No	288	0.47	140.6	260.4	Bronze
Vanguard Global Minimum Volatil Act ETF	Apr.18	VMIN	No	17.4	0.28	5.7	7	
Vanguard Global Multi-Factor Active ETF	Apr.19	VGMF	No	43.9				
Vanguard Global Value Equity Active ETF	Apr.18	VVLU	No	330.6	0.29	256.9	297.6	
Vanguard Intl Credit Secs (Hdg) ETF	Dec.15	VCF	No	213.2	0.3	23.5	131.9	Neutral
Vanguard Intl Fxd Intr (Hdg) ETF	Dec.15	VIF	No	654.4	0.2	85.3	434.2	Bronze
Vanguard MSCI Australian Large Coms ETF	May.11	VLC	No	145	0.2	10.3	33.8	Bronze
Vanguard MSCI Australian Small Coms ETF	May.11	VSO	No	723.3	0.3	156.3	333.3	Neutral
Vanguard MSCI International SC ETF	Nov.18	VISM	No	189.4	0.33	95	162.1	Gold
Vanguard MSCI Intl (Hdg) ETF	Nov.14	VGAD	No	1821.2	0.21	190.1	795	Gold
Vanguard MSCI Intl ETF	Nov.14	VGS	No	4712.2	0.18	1274.1	2161.7	Gold
Vanguard US Total Market Shares ETF	May.09	VTS	No	3205.5	0.03			Gold
WCM Quality Gbl Gr ETF (Quoted Mgd)	Aug.18	WCMQ	No	363.5	1.82	92.7	218.9	

Strategic Beta Group

Dividend	Quality	Multi-Factor	Other
BetaShares Global Income Leaders ETF ETFs S&P 500 High Yield Low Volatil ETF iShares S&P/ASX Dividend Opps ETF Russell Inv Australian Rspnb Inv ETF Russell Inv High Dividend Aus Shrs ETF SPDR® MSCI Australia Sel Hi Div Yld ETF SPDR® S&P Global Dividend ETF VanEck Vectors Mrngstr Aust Mt Inc ETF VanEck Vectors Small Coms Masters ETF Vanguard Australian Shares High Yld ETF	BetaShares Global Quality Ldrs ETF Ccy H BetaShares Global Quality Leaders ETF BetaShares India Quality ETF ETFS Morningstar Global Technology ETF VanEck Morningstar Wide Moat ETF VanEck Mrngstr WldexAustWdMtETF VanEck MSCI Intl Sm Com Qual ETF VanEck MSCI Wld ex Aus Qlty ETF VanEck MSCI Wld ex AUS Qul H ETF	iShares Edge MSCI Australia Mltfctr ETF iShares Edge MSCI World Multifactor ETF SPDR® MSCI World Quality Mix ETF VanEck China New Economy ETF VanEck MSCI Mltfac EmMkts Eq ETF	BetaShares S&P 500 Equal Weight ETF ETFS S&P/ASX 300 High Yield Plus ETF SelfWealth SMSF Leaders ETF VanEck Australian Equal Wt ETF VanEck Global Hlthcr Ldrs ETF
Fixed Income	Fundamentals	Risk-Oriented	Value
BetaShares Aus Inv Grd Corp Bd ETF VanEck Australian Corp Bd+ ETF	BetaShares FTSE RAFI Australia 200 ETF	BetaShares Australian Composite Bond ETF iShares Edge MSCI Australia Mini Vol ETF iShares Edge MSCI World Minimum Vol ETF	VanEck MSCI Intl Val ETF