

# Inside the numbers

July 31, 2019

**RICHARDSONGMP**  
CONNECTED  
WEALTH

## Connected Wealth Canada

**Objective:** Capital appreciation

**Benchmark:** S&P/TSX Composite Total Return Index

**Available:** SMA platform

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2013	CW Canada	4.7	1.3	1.0	-0.7	1.8	-3.2	3.8	1.3	3.6	4.2	1.9	3.0	24.8
	TSX TR	2.3	1.3	-0.2	-2.1	1.8	-3.8	3.2	1.5	1.4	4.7	0.5	2.0	13.0
2014	CW Canada	-0.2	2.4	1.2	1.5	-1.0	3.0	2.3	0.9	-2.9	0.7	1.6	0.4	10.0
	TSX TR	0.8	3.9	1.2	2.4	-0.2	4.1	1.4	2.1	-4.0	-2.1	1.1	-0.4	10.6
2015	CW Canada	1.5	5.0	-2.1	0.8	-2.0	-1.9	-0.1	-3.3	-3.1	4.2	0.0	-3.3	-4.5
	TSX TR	0.5	4.0	-1.9	2.4	-1.2	-2.8	-0.3	-4.0	-3.7	2.0	-0.2	-3.1	-8.3
2016	CW Canada	-3.4	0.2	5.6	0.3	2.6	-2.8	3.1	0.5	0.0	0.1	5.8	2.2	14.6
	TSX TR	-1.2	0.5	5.3	3.7	1.0	0.3	3.9	0.3	1.2	0.6	2.2	1.7	21.1
2017	CW Canada	2.1	0.1	0.7	0.5	-2.6	0.4	0.5	1.2	2.6	3.1	2.0	1.4	12.4
	TSX TR	0.8	0.2	1.3	0.4	-1.3	-0.8	-0.1	0.7	3.1	2.7	0.5	1.2	9.1
2018	CW Canada	-0.5	-2.6	0.5	1.2	3.0	2.0	0.9	-0.5	0.1	-7.2	0.7	-5.7	-8.4
	TSX TR	-1.4	-3.0	-0.2	1.8	3.1	1.7	1.1	-0.8	-0.9	-6.3	1.4	-5.4	-8.9
2019	CW Canada	5.5	2.8	0.6	3.4	-4.5	3.1	-1.0						
	TSX TR	8.7	3.1	1.0	3.2	-3.1	2.5	0.3						

	<u>CW</u> <u>Canada</u>	<u>TSX</u>	<u>Relative</u>	<u>Statistic</u>	<u>Description</u>	<u>CW</u> <u>Canada</u>	<u>TSX</u> <u>Composite</u>
1-month	-1.0%	0.3%	-1.4%	Sharpe Ratio	Performance relative to risk (higher is better)	0.8	0.7
3-months	-2.4%	-0.3%	-2.2%	Max Drawdown	Largest decline from peak to trough (less is better)	-13.5%	-14.3%
6-months	4.3%	7.3%	-2.9%	Up Market Capture	% of upside market participation (higher is better)	100%	1.0
1-year	-3.4%	3.0%	-6.4%	Down Market Capture	% of downside market participation (lower is better)	87%	1.0
YTD	10.1%	16.6%	-6.5%	Standard Deviation	Volatility (lower is better)	9.0%	8.7%
3-year	7.2%	7.1%	0.0%	Downside Deviation	Volatility of down months (lower is better)	6.4%	6.0%
5-year	4.5%	4.4%	0.1%	Beta	Volatility relative to benchmark	0.9	1.0
Inception	8.4%	7.5%	1.0%				

## Connected Wealth Canadian Dividend

**Objective:** Sustainable dividends with some capital appreciation

**Benchmark:** S&P/TSX Composite Total Return

**Available:** SMA platform

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2008	Cdn Dividend								4.2	-7.8	-3.8	-2.7	-1.0	-10.9
	TSX TR								1.5	-14.4	-16.7	-4.7	-2.6	-32.9
2009	Cdn Dividend	-4.1	-5.5	-1.0	4.8	6.0	4.3	4.2	-0.1	4.1	-2.9	2.4	6.1	19.0
	TSX TR	-3.0	-6.3	7.8	7.3	11.5	0.3	4.2	0.9	5.1	-4.0	5.2	2.9	35.1
2010	Cdn Dividend	-3.8	2.8	4.2	-0.1	-2.0	-1.2	4.2	1.8	4.0	1.9	-0.1	1.6	13.9
	TSX TR	-5.3	5.0	3.8	1.7	-3.5	-3.7	4.0	1.9	4.1	2.7	2.4	4.1	17.6
2011	Cdn Dividend	1.3	2.2	0.8	-0.1	2.5	-0.5	-2.8	1.2	-1.7	1.0	0.2	4.6	8.8
	TSX TR	1.0	4.4	0.1	-1.0	-0.9	-3.3	-2.5	-1.2	-8.7	5.6	-0.2	-1.7	-8.7
2012	Cdn Dividend	-0.1	1.8	2.5	0.6	-3.2	1.1	2.2	0.7	1.4	2.0	0.9	3.6	12.7
	TSX TR	4.4	1.7	-1.6	-0.6	-6.1	1.1	0.8	2.6	3.4	1.1	-1.3	1.9	7.2
2013	Cdn Dividend	2.2	2.2	1.3	0.9	-2.6	-3.1	1.7	0.1	1.5	4.7	-0.2	2.3	11.5
	TSX TR	2.3	1.3	-0.2	-2.1	1.8	-3.8	3.2	1.5	1.4	4.7	0.5	2.0	13.0
2014	Cdn Dividend	-0.4	2.2	2.6	2.1	0.2	1.3	1.0	2.0	-2.8	-0.4	0.7	-0.4	8.0
	TSX TR	0.8	3.9	1.2	2.4	-0.2	4.1	1.4	2.1	-4.0	-2.1	1.1	-0.4	10.6
2015	Cdn Dividend	-1.8	2.8	-0.4	2.5	-2.3	-1.0	-0.5	-2.9	-2.5	2.8	-0.7	-6.1	-10.1
	TSX TR	0.5	4.0	-1.9	2.4	-1.2	-2.8	-0.3	-4.0	-3.7	2.0	-0.2	-3.1	-8.3
2016	Cdn Dividend	0.5	-0.6	6.8	0.8	3.3	-1.0	3.2	1.2	0.7	-0.3	5.6	2.5	24.5
	TSX TR	-1.2	0.5	5.3	3.7	1.0	0.3	3.9	0.3	2.2	0.6	2.2	1.7	21.1
2017	Cdn Dividend	1.4	-0.7	1.4	1.2	-1.2	0.3	-0.2	1.3	1.4	2.5	1.7	0.9	11.3
	TSX TR	0.8	0.2	1.3	0.4	-1.3	-0.8	-0.1	0.7	3.1	2.7	0.5	1.2	9.1
2018	Cdn Dividend	-0.1	-3.0	-0.2	1.4	2.1	2.8	1.6	-0.8	-0.9	-6.3	1.0	-5.1	-7.8
	TSX TR	-1.4	-3.0	-0.2	1.8	3.1	1.7	1.1	-1.0	-0.9	-6.3	1.4	-5.4	-8.9
2019	Cdn Dividend	5.4	2.3	0.3	2.9	-3.1	2.3	-0.3						
	TSX TR	8.7	3.1	1.0	3.2	-3.1	2.5	0.3						

	<u>Canadian Dividend</u>	<u>TSX</u>	<u>Relative</u>	<u>Statistic</u>	<u>Description</u>	<u>Canadian Dividend</u>	<u>TSX Composite</u>
1 month	-0.3%	0.3%	-0.6%	Sharpe Ratio	Performance relative to risk (higher is better)	0.8	0.3
3 months	-1.2%	-0.3%	-0.9%	Max Drawdown	Largest decline from peak to trough (less is better)	-23.3%	-39.9%
6 months	4.3%	7.3%	-3.0%	Up Market Capture	% of upside market participation (higher is better)	76%	100%
1 year	-2.9%	3.0%	-6.0%	Down Market Capture	% of downside market participation (lower is better)	47%	100%
YTD	9.9%	16.6%	-6.7%	Standard Deviation	Volatility (lower is better)	9.1%	12.9%
3 year	7.4%	7.1%	0.2%	Downside Deviation	Volatility of down months (lower is better)	6.5%	11.5%
5 year	4.6%	4.4%	0.1%	Beta	Volatility relative to the TSX Comp	0.5	1.00
10 year	9.0%	7.4%	1.6%				
Inception	7.8%	4.8%	3.0%				

## Connected Wealth Core Income

**Objective:** Sustainable dividends with some capital appreciation

**Benchmark:** S&P/TSX Composite Total Return

**Available:** SMA platform & Fund

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2011	Core Income				0.5	0.8	-1.1	-2.6	0.9	-3.6	4.2	1.8	2.0	2.5
	TSX TR				-1.0	-0.9	-3.3	-2.5	-1.2	-8.7	5.6	-0.2	-1.7	-13.6
2012	Core Income	0.4	1.7	0.2	0.6	-2.0	1.1	2.9	0.1	1.0	1.1	-0.6	1.6	8.0
	TSX TR	4.4	1.7	-1.6	-0.6	-6.1	1.1	0.8	2.6	3.4	1.1	-1.3	1.9	7.2
2013	Core Income	2.9	3.0	2.0	1.9	-0.3	-2.7	1.6	0.1	1.7	4.4	1.6	2.8	21.2
	TSX TR	2.3	1.3	-0.2	-2.1	1.8	-3.8	3.2	1.5	1.4	4.7	0.5	2.0	13.0
2014	Core Income	0.2	2.2	2.7	1.6	-0.1	1.2	-0.6	1.8	-1.8	0.1	1.1	-0.3	8.3
	TSX TR	0.8	3.9	1.2	2.4	-0.2	4.1	1.4	2.1	-4.0	-2.1	1.1	-0.4	10.6
2015	Core Income	2.7	3.5	-1.0	0.9	-0.6	-1.2	1.4	-3.5	-1.6	3.7	0.6	-3.0	1.6
	TSX TR	0.5	4.0	-1.9	2.4	-1.2	-2.8	-0.3	-4.0	-3.7	2.0	-0.2	-3.1	-8.3
2016	Core Income	-0.2	-1.1	4.7	-0.4	4.0	-1.0	3.0	1.7	0.2	-0.7	5.1	2.1	18.6
	TSX TR	-1.2	0.5	5.3	3.7	1.0	0.3	3.9	0.3	1.2	0.6	2.2	1.7	21.1
2017	Core Income	0.5	1.1	1.3	1.0	-1.2	-1.0	-0.8	0.6	2.4	3.8	1.5	0.1	9.4
	TSX TR	0.8	0.2	1.3	0.4	-1.3	-0.8	-0.1	0.7	3.1	2.7	0.5	1.2	9.1
2018	Core Income	0.4	-1.1	-0.1	0.2	1.7	1.3	1.8	-1.0	-1.7	-5.1	2.1	-5.5	-7.1
	TSX TR	-1.4	-3.0	-0.2	1.8	3.1	1.7	1.1	-0.8	-0.9	-6.3	1.4	-5.4	-8.9
2019	Core Income	6.2	3.3	1.7	3.6	-5.5	2.4	1.4						
	TSX TR	8.7	3.1	1.0	3.2	-3.1	2.5	0.3						

	<u>Core Income</u>	<u>TSX</u>	<u>Relative</u>	<u>Statistic</u>	<u>Description</u>	<u>Core Income</u>	<u>TSX Composite</u>
1-month	1.4%	0.3%	1.1%	Sharpe Ratio	Performance relative to risk (higher is better)	1.1	0.4
3-months	-1.9%	-0.3%	-1.6%	Max Drawdown	Largest decline from peak to trough (less is better)	-11.5%	-14.9%
6-months	6.8%	7.3%	-0.5%	Up Market Capture	% of upside market participation (higher is better)	86%	100%
1-year	1.0%	3.0%	-2.1%	Down Market Capture	% of downside market participation (lower is better)	45%	100%
YTD	13.4%	16.6%	-3.3%	Standard Deviation	Volatility (lower is better)	7.5%	9.3%
3-year	8.0%	7.1%	0.9%	Downside Deviation	Volatility of down months (lower is better)	5.2%	6.8%
5-year	7.1%	4.4%	2.6%	Beta	Volatility relative to the TSX Comp	0.6	1
Inception	9.5%	8.2%	1.3%				

## Connected Wealth Diversified Income

**Objective:** Income & capital preservation

**Benchmark:** 60% S&P/TSX Composite Total Return + 40% FTSE TMX Domestic Bond Index

**Available:** SMA platform

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2012	Div Income		0.9	-0.3	0.0	-0.8	1.4	1.6	0.3	1.3	1.1	-0.4	1.0	6.1
	60/40 BM		0.8	-1.1	-0.3	-2.8	0.7	0.7	1.5	2.3	0.6	-0.5	1.1	3.0
2013	Div Income	2.8	2.0	1.4	1.0	-0.3	-2.7	1.6	-0.5	1.1	2.9	1.5	1.6	12.9
	60/40 BM	1.1	1.2	0.1	-0.8	0.4	-3.1	2.0	0.7	1.0	3.3	0.2	1.0	7.1
2014	Div Income	0.6	1.6	1.9	0.9	0.0	0.1	0.0	1.7	-1.3	0.2	1.4	-0.8	6.6
	60/40 BM	1.5	2.5	0.7	1.7	0.4	2.6	1.1	1.7	-2.6	-1.0	1.3	0.0	9.9
2015	Div Income	2.4	2.1	-1.3	0.9	-0.1	-0.7	0.5	-3.2	-1.6	3.3	0.8	-1.0	1.8
	60/40 BM	2.2	2.3	-1.3	0.9	-0.7	-1.9	0.4	-2.8	-2.3	1.1	-0.1	-1.4	-3.6
2016	Div Income	-0.5	-1.2	3.2	0.2	2.6	0.3	2.1	1.5	0.1	0.6	3.1	1.5	14.2
	60/40 BM	-0.5	0.4	3.5	2.2	1.0	0.9	2.7	0.2	0.8	0.0	0.5	0.8	13.0
2017	Div Income	0.9	1.0	0.8	1.2	0.5	-1.7	-1.0	1.1	0.7	2.6	1.3	0.1	7.7
	60/40 BM	0.5	0.5	1.0	0.8	-0.5	-0.9	-0.8	1.0	1.3	2.3	0.6	0.6	6.5
2018	Div Income	-0.2	-0.5	0.2	-0.2	2.1	1.5	1.7	-0.7	-0.7	-3.0	2.0	-2.7	-0.4
	60/40 BM	-1.2	-1.7	0.2	0.7	2.2	1.2	0.4	-0.2	-0.9	-4.0	1.2	-2.7	-4.8
2019	Div Income	3.6	2.5	1.6	2.0	-3.2	1.7	1.3						
	60/40 BM	5.8	2.0	1.5	1.9	-1.2	1.9	0.3						

	<u>Diversified Income</u>	<u>Benchmark 60/40</u>	<u>Relative</u>	<u>Statistic</u>	<u>Description</u>	<u>Diversified Income</u>	<u>Benchmark 60/40</u>
1-month	1.3%	0.3%	1.0%	Sharpe Ratio	Performance relative to risk (higher is better)	1.3	0.8
3-months	-0.3%	1.0%	-1.2%	Max Drawdown	Largest decline from peak to trough (less is better)	-5.5%	-8.3%
6-months	5.9%	6.5%	-0.6%	Up Market Capture	% of upside market participation (higher is better)	103%	100%
1-year	4.3%	5.4%	-1.1%	Down Market Capture	% of downside market participation (lower is better)	68%	100%
YTD	9.7%	12.7%	-3.0%	Standard Deviation	Volatility (lower is better)	5.1%	5.4%
3-year	8.0%	5.3%	2.7%	Downside Deviation	Volatility of down months (lower is better)	3.3%	3.6%
5-year	6.7%	4.3%	2.4%	Beta	Volatility relative to 60/40 benchmark	0.7	1.0
Inception	7.87%	6.36%	1.5%				

## Connected Wealth US Dividend

**Objective:** Sustainable dividends with moderate capital appreciation

**Benchmark:** S&P 500 Total Return

**Available:** SMA platform

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2011	US Dividend							-3.5	1.8	-1.2	3.5	0.6	3.1	4.2
	S&P 500							-2.0	-5.4	-7.0	10.9	-0.2	1.0	-3.7
2012	US Dividend	-0.8	4.4	1.6	1.3	-2.8	4.9	1.7	-0.5	-0.1	-2.0	-0.1	0.0	7.7
	S&P 500	4.5	4.3	3.3	-0.6	-6.0	4.1	1.4	2.3	2.6	-1.8	0.6	0.9	16.0
2013	US Dividend	4.5	2.8	4.2	5.2	-1.1	0.5	3.1	-2.7	0.8	5.0	1.9	-0.2	26.3
	S&P 500	5.2	1.4	3.8	1.9	2.3	-1.3	5.1	-2.9	3.1	4.6	3.0	2.5	32.4
2014	US Dividend	-1.9	2.4	3.9	2.8	1.9	1.9	-1.7	2.8	-0.9	1.2	2.2	-0.9	14.5
	S&P 500	-3.5	4.6	0.8	0.7	2.3	2.1	-1.4	4.0	-1.4	2.4	2.7	-0.3	13.7
2015	US Dividend	-3.1	4.0	-1.4	2.6	-0.1	-2.1	1.2	-6.2	-1.1	7.9	1.1	-1.0	1.0
	S&P 500	-3.0	5.7	-1.6	1.0	1.3	-1.9	2.1	-6.0	-2.5	8.4	0.3	-1.6	1.4
2016	US Dividend	-3.8	0.0	6.6	0.0	1.1	0.5	3.3	1.1	-0.6	-1.6	4.9	2.0	13.6
	S&P 500	-5.0	-0.1	6.8	0.4	1.8	0.5	3.5	0.1	0.0	-1.8	3.7	2.0	12.0
2017	US Dividend	0.4	3.6	0.1	-1.1	0.4	1.5	0.6	0.4	2.2	0.2	2.8	1.3	12.2
	S&P 500	1.9	4.0	0.1	1.0	1.4	0.6	2.1	0.3	2.1	2.3	3.1	1.1	21.8
2018	US Dividend	4.0	-2.3	-1.1	-0.5	0.0	-1.6	3.7	0.6	-0.5	-4.7	3.9	-7.1	-6.0
	S&P 500	5.7	-3.7	-2.5	0.4	2.4	0.9	3.7	3.3	0.6	-6.8	2.0	-9.0	-4.4
2019	US Dividend	6.5	3.7	2.2	2.7	-6.4	7.0	1.6						
	S&P 500	8.0	3.2	1.9	4.0	-6.4	7.0	1.4						

	<u>CW U.S. Dividend</u>	<u>S&amp;P 500</u>	<u>Relative</u>	<u>Statistic</u>	<u>Description</u>	<u>CW U.S. Dividend</u>	<u>S&amp;P 500</u>
1 month	1.6%	1.4%	0.2%	Sharpe Ratio	Performance relative to risk (higher is better)	1.1	1.1
3 months	1.8%	1.7%	0.1%	Max Drawdown	Largest decline from peak to trough (less is better)	-8%	-14%
6 months	10.8%	11.3%	-0.5%	Up Market Capture	% of upside market participation (higher is better)	77%	100%
1-year	8.7%	8.0%	0.8%	Down Market Capture	% of downside market participation (lower is better)	65%	100%
YTD	18.0%	20.2%	-2.3%	Standard Deviation	Volatility (lower is better)	9.8%	12.0%
3-year	9.5%	13.4%	-3.8%	Downside Deviation	Volatility of down months (lower is better)	6.2%	8.3%
5-years	8.3%	11.3%	-3.1%	Beta	Volatility relative to the S&P 500	0.7	1.0
Inception	11.3%	12.9%	-1.6%				

## Connected Wealth Tactical ETF

**Objective:** Diversification and low volatility with some capital appreciation **Benchmark:** 40% TSX + 20% S&P + 40% FTSE TMX Domestic Bond

**Available:** Institutional account size only, strategy is also available in Fund & ETF

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2011	Tactical									0.7	1.3	-1.8	-1.2	-1.1
	Benchmark									-3.8	3.8	0.7	-0.3	0.3
2012	Tactical	5.1	1.0	0.8	-1.9	-0.4	-0.5	-1.0	2.5	2.0	0.6	-2.4	0.5	6.1
	Benchmark	2.1	1.1	0.1	-0.5	-2.0	0.9	0.6	1.1	2.1	0.3	-0.2	0.8	6.5
2013	Tactical	2.9	1.9	0.5	-1.3	2.1	-2.1	2.0	0.5	0.4	3.8	2.2	0.9	14.4
	Benchmark	1.7	1.9	0.6	-0.2	1.2	-2.3	1.9	0.3	1.0	3.4	1.1	1.1	12.2
2014	Tactical	2.4	1.8	0.8	0.5	0.1	2.2	1.2	1.4	-0.2	1.2	2.1	0.0	13.4
	Benchmark	1.6	2.5	0.6	1.2	0.7	1.8	1.0	2.0	-1.5	0.0	1.9	0.4	12.6
2015	Tactical	3.7	2.5	-1.0	-0.5	0.9	-1.1	2.8	-2.4	-0.8	0.5	0.0	-0.7	3.7
	Benchmark	3.1	2.3	-0.9	-0.3	0.5	-1.6	1.8	-3.2	-1.8	2.0	0.4	-0.4	1.6
2016	Tactical	-1.1	-1.6	2.9	-0.2	2.4	-2.3	2.8	0.8	0.6	0.8	-0.1	1.6	6.8
	Benchmark	-1.1	-0.4	2.9	0.8	1.9	0.7	2.8	0.3	0.6	-0.1	0.8	0.9	10.6
2017	Tactical	0.5	1.8	0.3	1.7	0.1	-2.3	-1.4	0.7	0.4	3.3	1.0	-0.5	5.5
	Benchmark	0.1	1.7	1.1	1.6	-0.6	-1.6	-1.1	0.9	1.1	2.8	1.1	0.0	7.7
2018	Tactical	0.7	-0.6	-0.4	0.0	1.6	1.7	0.2	1.0	-1.0	-2.3	0.7	-1.7	-0.2
	Benchmark	-0.1	-1.1	-0.2	0.4	2.2	1.3	0.7	0.7	-0.8	-3.8	1.4	-2.8	-2.2
2019	Tactical	3.7	3.2	1.7	3.5	-0.9	0.1	0.7						
	Benchmark	5.1	2.2	2.0	2.1	-1.6	2.1	0.6						

	<u>Tactical</u> <u>ETF</u>	<u>Benchmark</u>	<u>Relative</u>	<u>Statistic</u>	<u>Description</u>	<u>Tactical</u> <u>ETF</u>	<u>Benchmark</u>
1-month	0.7%	0.6%	0.1%	Sharpe Ratio	Performance relative to risk (higher is better)	1.2	1.1
3-months	-0.1%	1.1%	-1.2%	Max Drawdown	Largest decline from peak to trough (less is better)	-5.9%	-5.9%
6-months	8.6%	7.6%	0.9%	Up Market Capture	% of upside market participation (higher is better)	87%	100%
1-year	8.9%	6.7%	2.3%	Down Market Capture	% of downside market participation (lower is better)	69%	100%
YTD	12.6%	12.6%	0.0%	Standard Deviation	Volatility (lower is better)	5.6%	6.2%
3-year	7.2%	7.1%	0.1%	Downside Deviation	Volatility of down months (lower is better)	2.7%	4.4%
5-year	6.6%	6.7%	-0.1%	Beta	Volatility relative to the benchmark	0.7	1.0
Inception	7.7%	7.8%	-0.1%				

The research above is prepared by Richardson GMP Limited and is current as at the date on page 1. Please note that past performance is not necessarily an indicator of future performance. The indicated rates of return are gross of fees and/or commissions. Individual results of client portfolios may differ from that of the representative portfolio as fees may differ, and performance of specific accounts is based on specific account investiture. The noted representative portfolio may not be appropriate for all investors.

This research has been prepared for the use of the clients of Richardson GMP Limited and must not be copied, either in whole or in part, or distributed to any other person. If you are not the intended recipient, you must not use or disclose the information in this research in any way. Nothing in this research shall be construed as a solicitation to buy or sell any security or product, or to engage in or refrain from engaging in any transaction. This research is general advice and does not take account of your objectives, financial situation or needs. Before acting on this general advice you should therefore consider the appropriateness of the advice having regard to your situation. We recommend you obtain financial, legal and taxation advice before making any financial investment decision. Past performance is not a reliable indicator of future performance. There are risks involved in securities trading. The price of securities can and does fluctuate and an individual security may even become valueless. International investors are reminded of the additional risks inherent in international investments, such as currency fluctuations and international stock market or economic conditions, which may adversely affect the value of the investment. This research is based on information obtained from sources believed to be reliable but we do not make any representation or warranty that it is accurate, complete or up to date. We accept no obligation to correct or update the information or opinions in it. Opinions expressed are subject to change without notice. No member of the Richardson GMP Limited accepts any liability whatsoever for any direct, indirect, consequential or other loss arising from any use of this research and/or further communication in relation to this research.

Richardson GMP Limited or its associates, officers or employees may have interests in the financial products referred to in this report by acting in various roles including as investment banker, underwriter or dealer, holder of principal positions, broker, lender, director or adviser. Further, they may act as market maker or buy or sell those securities as principal or agent and, as such, may affect transactions which are not consistent with the recommendations (if any) in this research. Richardson GMP Limited is a member of the Canadian Investor Protection Fund and IIROC. Richardson is a trade-mark of James Richardson & Sons Limited. GMP is a registered trade-mark of GMP Securities L.P. Both used under license by Richardson GMP Limited.