

RBC Energy & Utilities Equity Team Click here for contributing analysts' contact information

August 1, 2023

Global Energy Best Ideas

Our view: In July, the RBC Global Energy Best Ideas List was up 7.8% compared to the iShares S&P Global Energy Sector ETF (IXC) up 6.2% and a hybrid benchmark (75% IXC, 25% JXI – iShares Global Utilities ETF) that rose 5.0% on a sequential basis. Since its inception in February 2013, the RBC Global Energy Best Ideas List is up 145.7% compared to the S&P Global Energy Sector ETF up 29.5%.

Total Return Comparison	July	YTD	Inception
iShares S&P Global Energy (IXC)	6.2%	3.2%	29.5%
Hybrid Benchmark (75% IXC, 25% JXI)	5.0%	3.0%	44.5%
RBC Global Energy Best Ideas	7.8%	3.4%	145.7%

uly List Changes:	
dditions: ALA-CA, CPE-US	
emovals: CRC-US, RRC-US, SHEL-LN	

RBC GLOBAL ENERGY BEST IDEAS LIST								
	Ticker	Rating ¹	Analyst	Mkt Cap (mn)	Date Added	Add Price	Current Price	Price Targe
Integrated Energy								
Suncor Energy	SU-CA	OP	Pardy	C\$54,036	3/1/23	C\$45.86	C\$41.26	C\$49.00
Exploration & Production								
Topaz Energy	TPZ-CA	OP	Davis	C\$3,097	11/1/22	C\$23.04	C\$21.45	C\$26.00
Callon Petroleum Company	CPE-US	OP	Hanold	\$2,559	8/1/23	\$37.56	\$37.56	\$50.00
Diamondback Energy	FANG-US	OP	Hanold	\$26,679	12/7/22	\$138.21	\$147.32	\$170.00
Permian Resources Corporation	PR-US	OP	Hanold	\$6,822	12/7/22	\$8.99	\$11.69	\$14.00
ARC Resources	ARX-CA	OP	Harvey	C\$12,156	5/1/21	C\$7.73	C\$19.92	C\$24.00
Tourmaline Oil	TOU-CA	OP	Harvey	C\$23,100	1/1/20	C\$15.08	C\$68.34	C\$84.00
Canadian Natural Resources	CNQ-CA	OP	Pardy	C\$88,420	4/1/22	C\$77.41	C\$80.19	C\$82.00
Santos Limited	STO-AU	OP	Ramsay	A\$25,852	6/1/19	A\$6.74	A\$7.96	A\$8.50
Oilfield Services								
SLB	SLB-US	OP	Mackey	\$82,912	1/4/22	\$29.95	\$58.34	\$65.00
Midstream								
AltaGas Ltd.	ALA-CA	OP	Kwan	C\$7,330	8/1/23	C\$26.03	C\$26.03	C\$31.00
Pembina Pipeline Corporation	PPL-CA	OP	Kwan	C\$22,979	9/1/22	C\$46.38	C\$41.75	C\$58.00
Targa Resources Corp.	TRGP-US	OP	Schultz	\$18,531	12/1/21	\$51.63	\$81.99	\$104.00
Cheniere Energy Inc	LNG-US	OP	Scotto	\$39,325	5/1/20	\$46.69	\$161.86	\$200.00
Energy Transfer LP	ET-US	OP	Scotto	\$41,156	2/1/22	\$9.57	\$13.29	\$17.00
Utilities, Refiners, Infrastructure & Ren	ewables							
Superior Plus	SPB-CA	OP	Ng	C\$1,983	12/7/22	C\$9.82	C\$9.88	C\$15.00
Marathon Petroleum Corporation	MPC-US	OP	Schultz	\$56,438	12/7/22	\$109.29	\$133.02	\$148.00
PG&E Corporation	PCG-US	OP	Tucker	\$36,827	9/1/22	\$12.33	\$17.61	\$21.00

¹⁻OP = Outperform, 2-Indicates Speculative Risk. 3-Opening price given is the closing price of the trading day prior to which the stock was added. 4-Return assumes all dividends and distributions are reinvested.

RBC Dominion Securities Inc. Greg Pardy (Head of Global Energy Research) Robert Kwan (Analyst) Michael Harvey (Analyst) Nelson Ng (Analyst) Luke Davis (Analyst) Keith Mackey (Analyst)

RBC Europe Limited Biraj Borkhataria (Associate Director of European Research) Victoria McCulloch (Analyst)

RBC Capital Markets, LLC Scott Hanold (Analyst) Elvira Scotto (Analyst) TJ Schultz (Analyst) Shelby Tucker (Analyst)

Royal Bank of Canada, Sydney Branch Gordon Ramsay (Analyst)

Note 1: Performance returns do not take into account relevant costs, including commissions and interest charges or other applicable expenses that may be associated with transactions in this Equity Best Ideas list. Past performance is not, and should not be viewed as, an indicator of future performance.

Source: RBC Capital Markets estimates, FactSet



This Month's Additions and Removals from Energy Best Ideas Lists

Exhibit 1 - This Month's Additions

AltaGas Ltd. (ALA) Robert Kwan, Analyst (604) 257-7611 robert.kwan@rbccm.com

- We add ALA to the Energy Best Ideas list as we expect shares to outperform its peer group over the next 12 months. We believe Vern Yu's first quarterly conference call as the new CEO laid the groundwork for future value creation with statements that support: (1) a focus on strengthening the base cash flows (i.e., increased contracting); (2) the pursuit of contracted and/or regulated growth continuing on an equity self-financed basis; (3) reducing leverage to 4.5x debt/EBITDA and possibly even lower; and (4) ensuring that it keeps its options open for future value maximization, including changes in the company's structure.
- Positive messaging underpinned by Vern Yu's previous experience and vision for the future. We positively view Vern Yu's first conference call as the new CEO, which started with messaging on reducing risk and volatility in the business via a higher degree of contracting for both existing cash flow and future growth projects (i.e., credibility based on his experience at Enbridge). Further, we believe reducing debt/EBITDA is an important priority for many shareholders and we note management hopes to make "significant progress, hopefully sooner rather than later" to get to its 4.5x debt/EBITDA target, and once it is there, it will "re-evaluate" where it wants to be (i.e., we think the company may set a lower leverage target).
- Increasingly visible path to reaching its 4.5x debt/EBITDA target with the potential to go lower. With the improved line of sight to the completion of the Mountain Valley Pipeline (MVP) and management noting that it is a noncore asset sale candidate, we have a greater confidence in the company's ability to get to its 4.5x debt/EBITDA target in relatively short order. More importantly, we believe leverage needs to be closer to 4.0x debt/EBITDA and we are encouraged by statements made by the new CEO on the Q2/23 conference call, which opened the door to lower leverage.



Callon Petroleum Company (CPE)

Scott Hanold, Analyst (512) 708-6354 scott.hanold@rbccm.com

- We add CPE to the Energy Best Ideas list as we expect shares to outperform its peer group over the next 12 months. A healthy cost structure and efficient maintenance capital program sets up robust FCF generation above peers over the next few years.
- Improved balance sheet. CPE has significantly improved its balance sheet over the
 last few years, reducing its debt-to-EBITDA profile from >3.5x to <1.5x levels. The
 company also recently achieved its sub-\$2 billion net debt goal, through divesting its
 non-core Eagle Ford acreage. Debt reduction will remain a priority, with a focus of
 reaching sub-\$1.5 billion.
- Acquisition creates a focused Permian player with increased scale. CPE's divestiture of its Eagle Ford acreage was in tandem with the acquisition of 18,000 net acres in the core of the Delaware basin, boosting its position to 145,000 acres. These locations are adjacent to the company's existing footprint which should drive cost efficiencies. The added acreage has a 70% oil cut with ~90% of the inventory having a PV10 breakeven below \$45 WTI, strengthening the future FCF profile and increasing the overall oil mix.
- Buybacks begin. Upon achieving the sub-\$2 billion debt target, the BoD approved a \$300 million buyback program. We expect CPE to immediately begin tapping into the program and model them fully exhausting the authorization sometime between late 2024 and early 2025.
- Attractive valuation. CPE trades at a discount compared to SMid-cap peers despite
 having one of the highest FCF yields in the group. We believe through high-level
 operational execution, a newly introduced shareholder return program, and
 continued deleveraging that the stock is set to close the gap and eventually garner
 a premium.

Exhibit 2 - This Month's Removals

Shell PLC (SHEL)

Biraj Borkhataria, Analyst (+44) 20-7029-7556 biraj.borkhataria@rbccm.com • We remove Shell from the Energy Best Ideas List. Just a few weeks removed from Shell's CMD and updated strategy, the track record of 'boring' results has got off to another false start with 2Q which should've been a non-event. Having said that, we continue to see Shell as a compelling multi-year investment opportunity and see focus going forward on its operational delivery.

California Resources Corp. (CRC) Scott Hanold, Analyst

(512) 708-6354 scott.hanold@rbccm.com We remove CRC from the Energy Best Ideas List. The removal is due to the strong YTD performance thus far relative to its peers and relative upside compared to other SMid caps. This outperformance was bolstered by an exceptionally strong July, where the stock was traded up 15+%. We still see upside value to the stock, as we believe the market assigns little-to-no value on its CCS business, CTV, along with continuing to undervalue the traditional E&P business.

Range Resources (RRC)

Scott Hanold, Analyst (512) 708-6354 scott.hanold@rbccm.com We remove RRC from the Energy Best Ideas List. The removal is due to strong YTD
performance thus far relative to its gassy peers and relative upside compared to
peers. RRC still remains one of our top picks for gas-equities for to its large legacy
asset base in the core of the Marcellus, operational expertise, and clear path
towards achieving debt targets and increasing shareholder returns.



Investment Highlights

Below, we provide a summary of our analysts' views on each Best Idea.

AltaGas Ltd. (ALA) Robert Kwan, Analyst (604) 257-7611 robert.kwan@rbccm.com

- Positive messaging underpinned by Vern Yu's previous experience and vision for the future. We positively view Vern Yu's first conference call as the new CEO, which started with messaging on reducing risk and volatility in the business via a higher degree of contracting for both existing cash flow and future growth projects (i.e., credibility based on his experience at Enbridge). Further, we believe reducing debt/EBITDA is an important priority for many shareholders and we note management hopes to make "significant progress, hopefully sooner rather than later" to get to its 4.5x debt/EBITDA target, and once it is there, it will "re-evaluate" where it wants to be (i.e., we think the company may set a lower leverage target).
- Increasingly visible path to reaching its 4.5x debt/EBITDA target with the potential to go lower. With the improved line of sight to the completion of the Mountain Valley Pipeline (MVP) and management noting that it is a noncore asset sale candidate, we have a greater confidence in the company's ability to get to its 4.5x debt/EBITDA target in relatively short order. More importantly, we believe leverage needs to be closer to 4.0x debt/EBITDA and we are encouraged by statements made by the new CEO on the Q2/23 conference call, which opened the door to lower leverage.



ARC Resources (ARX)

Michael Harvey, Analyst (403) 299-6998 michael.harvey@rbccm.com

- FCF generation ample. With a strong balance sheet and large M&A on hold (for now), the focus remains on Attachie development and RoC initiatives. ARC targets return of capital of 100% of its FCF via base dividend tied to earnings growth (now at \$0.66/share) and share buyback. Production growth is not a specific target but rather an outcome of the most efficient way to execute projects (Sunrise, Attachie) paired with the Basin's capacity to absorb new product and is unlikely to exceed 5%. See our recent quarterly note here and investor day note here.
- Western Canada's largest Montney player. ARC's production base of circa 350,000 boe/d, makes it what we view as a Montney Champion with top decile supply costs and deep project inventory. This benchmarks ARC as the largest Montney producer, 3rd largest outright gas producer and 6th largest E&P by volume amid the WCSB producer landscape, with operated facilities network of ~1.5bcf/d second only to CNQ and TOU. See our notes here and here.
- Sanctioning of Attachie. ARC recently announced the formal sanctioning of the Attachie project, which is a \$740 million project expected to deliver roughly 40,000 boe/d (60% liquids) and on stream late in 2024. The \$740 million price tag includes the drilling of 39 initial wells, an electrified 90 mmcf/d gas plant, 25,000 bbl/d of liquids handling plus associated infrastructure. Roughly \$250-300 million of the total investment will be focused on 2023, with the balance in 2024. See our note here.
- Facility portfolio adds scale and optionality. Following the absorption of 7G assets,
 ARC's owned and operated facility portfolio roughly doubles to about 1.5 bcf/d—
 now third in the basin behind CNQ and TOU. This larger strategic footprint allows for
 continued top-quartile operating metrics and optimized marketing, and it
 establishes critical mass, opening the door for other potential strategic options in
 the future. See our note here.
- LNG The key to long term value creation. ARC's existing 2P reserve book contains sufficient resource to sustain an entire 2-train LNG project (1.8 bcf/d) for 10+ years, and when adding future drilling could increase to 40-50 years. Accordingly, the company should be viewed as a key supplier, or alternatively as a strategic asset for operators looking for vertical integration. The owners of LNG Canada now collectively hold enough product to support Phase 1 of the development (~1.8 bcf/d), but any expansion (Phase 2, +1.8 bcf/d) would need to be augmented. ARX signed a Memorandum of Understanding with the proposed Cedar LNG Project for a 20-year LNG supply agreement to send 200 mmcf/d of natural gas, which is expected start in 2028/2029. The company has also noted that it plans to sign an additional LNG agreement by YE23. See our notes here and here.



Callon Petroleum Company (CPE) Scott Hanold, Analyst (512) 708-6354 scott.hanold@rbccm.com

- We expect CPE shares to outperform its peer group over the next 12 months. A
 healthy cost structure and efficient maintenance capital program sets up robust FCF
 generation above peers over the next few years.
- Improved balance sheet. CPE has significantly improved its balance sheet over the last few years, reducing its debt-to-EBITDA profile from >3.5x to <1.5x levels. The company also recently achieved its sub-\$2 billion net debt goal, through divesting its non-core Eagleford acreage. Debt reduction will remain a priority, with a focus of reaching sub-\$1.5 billion.</p>
- Acquisition creates a focused Permian player with increased scale. CPE's divestiture of its Eagleford acreage was in tandem with the acquisition of 18,000 net acres in the core of the Delaware basin, boosting its position to 145,000 acres. These locations are adjacent to the company's existing footprint which should drive cost efficiencies. The added acreage has a 70% oil cut with ~90% of the inventory having a PV10 breakeven below \$45 WTI, strengthening the future FCF profile and increasing the overall oil mix.
- Buybacks begin. Upon achieving the sub-\$2 billion debt target, the BoD approved a \$300 million buyback program. We expect CPE to immediately begin tapping into the program and model them fully exhausting the authorization sometime between late 2024 and early 2025.
- Attractive valuation. CPE trades at a discount compared to SMid-cap peers despite
 having one of the highest FCF yields in the group. We believe through high-level
 operational execution, a newly introduced shareholder return program, and
 continued deleveraging that the stock is set to close the gap and eventually garner
 a premium.



Canadian Natural Resources (CNQ)

Greg Pardy, Head of Global Energy Research (416) 842-7848 greg.pardy@rbccm.com

- Globally distinguished. Canadian Natural Resources' management committee structure and shareholder alignment are unique factors which distinguish the company globally. CNQ's long-life, low-decline portfolio—anchored by low sustaining capital—affords the company with superior free cash flow generation throughout the cycle.
- Impressive shareholder returns. CNQ's shareholder returns policy revolves around a net debt floor of \$10 billion. The company is currently allocating 50% of its free cash flow (after dividends and base capital) towards share repurchases, with the balance (less strategic growth capital/acquisitions) earmarked for debt reduction. Once CNQ's net debt falls to \$10 billion the company will allocate 100% of its free cash flow as incremental returns to shareholders. This could come in the form of further base dividend growth, accelerated share repurchases and/or special/variable dividends. Free cash flow will be defined as adjusted FFO less dividends and total capital expenditures in the year (excluding A&D). To the extent that the company's net debt rises above \$10 billion, it would revert to its prevailing 50/50 policy. Additionally, alongside fourth-quarter results, CNQ raised its common share dividend by 6% to an annualized rate of \$3.60 per share. We think it is important to point out that CNQ has never cut its common dividend, which has grown at a CAGR of circa 21% over the past 23 years.
- **Strong alignment.** CNQ has no CEO. Instead, the company is stewarded by a management committee. This group meets weekly, and oversees all matters ranging from marketing, finance, ESG, operations and technology amongst others.
- ESG—lots of progress. CNQ has established a GHG emissions reduction target of 40% of total corporate absolute Scope 1 and 2 GHG emissions by 2035 (vs. a 2020 baseline). Not to be overlooked, CNQ also continues to make progress towards its initiatives with respect to the Oil Sands Pathways to Net Zero Alliance. CNQ also continues to target a 50% reduction in North American E&P (including thermal insitu) methane emissions by 2030 (vs. 2016), and a 40% reduction in both thermal insitu fresh water usage intensity and mining fresh river water usage intensity by 2026 (from a 2017 baseline).

Cheniere Inc. (LNG)

Elvira Scotto, Analyst (212) 905-5957 elvira.scotto@rbccm.com

- Highly contracted cash flow with strong counterparties. Cheniere has a weighted average contract duration of 17 years on its long-term take-or-pay contracts and is 90% contracted on its nine-train portfolio including mid-term and short-term SPA and IPM agreements. All of Cheniere's Sale and Purchase Agreement customers are investment grade rated or have investment grade credit metrics. Importantly, utilities or state-owned utilities/oil and gas companies represent 68% of Cheniere's contracted capacity.
- Liquefaction fees represent most of Cheniere's EBITDA. Cheniere's customers have the contractual right to cancel cargoes but must still pay fixed liquefaction fees. In our 2024 run-rate scenario, on a consolidated basis, liquefaction fees represent ~90% of Cheniere's total EBITDA while lift represents ~5% and marketing ~5%.
- Long-term FCF and capital return story with a growth option. We believe long-term take-or-pay contracts with high credit quality counterparties provide cash flow visibility. After completing its 2021 capital allocation strategy ahead of schedule, Cheniere updated its capital allocation strategy, which now includes: (1) continued debt pay-down to hit a long-term run rate leverage target of ~4.0x Debt/EBITDA; (2) an incremental \$4BN of share repurchase over 3 years; (3) annual dividend growth of ~10% through the mid-2020's and target ~20% payout ratio once Corpus Christi Stage 3 hits run-rate cash flow. In addition, Cheniere continues to pursue potential growth opportunities with Corpus Christi Midscale Trains 8 and 9 as well as the Sabine Pass Liquefaction Expansion project in FERC pre-filing.



Diamondback Energy (FANG)

Scott Hanold, Analyst (512) 708-6354 scott.hanold@rbccm.com

- We believe FANG shares should outperform its peer group over the next 12 months.
 Management has built a solid Permian Basin position with a deep inventory of liquids-rich development opportunities. The company is one of a few that have amassed a combination of quality assets, strong economic growth, minerals ownership, and a water business, which collectively help to provide a competitive advantage.
- Defining low-cost operator. We believe FANG has one of the lowest cost structures
 in the basin and a corporate cash flow break-even (including dividend) that is among
 the best in the industry.
- Robust shareholder return proposition. A shareholder-friendly return proposition
 that includes at least 75% of FCF in the form of a fixed dividend, variable dividend,
 and stock buybacks. Management plans to be opportunistic on buybacks when FANG
 shares trades at or below the implied mid-cycle valuation (\$60-65/bbl based).
- Depth of tier-1 inventory. The company has a runway of tier-1 inventory projects
 that extend more than a decade. FANG has a track record of achieving its growth
 targets while spending within cash. It has a willingness and demonstrated ability to
 adjust activity levels quickly in response to challenging market conditions.

Energy Transfer (ET) Elvira Scotto, Analyst (212) 905-5957 elvira.scotto@rbccm.com

- Attractive asset footprint across the natural gas, natural gas liquids, and crude oil
 value chain. We view ET's asset footprint as one of the most attractive across the
 midstream universe. We believe ET's expansive asset footprint can benefit from
 commodity price dislocations (i.e., crude oil and natural gas basis spreads) as well as
 crude oil, natural gas and NGL production growth. Recent acquisitions (such as Lotus
 Midstream) should help enhance and optimize ET's asset base.
- Strong balance sheet and FCF generation potential positions the company for capital return. We believe ET is well positioned to generate meaningful cash flow growth as large-scale growth projects come online and as we expect growth capex to slow. ET has significantly lowered its debt over the past few years and continues to target leverage of 4.0-4.5x. With a stronger balance sheet, ET should be in position to return more cash to unit-holders. ET now targets distribution growth of 3-5% annually, which should still allow ET to invest in accretive growth projects and maintain its leverage at the lower end of its targeted 4.0-4.5x leverage ratio. That said, ET would consider opportunistic repurchase and buybacks to potentially support the units.
- Potential Up-C structure could attract new investors. ET continues to evaluate an
 Up-C structure and still targets completion by year-end 2023. ET is currently
 structured as an MLP, which precludes some investors from investing in ET. An UpC structure, which issues a 1099 instead of a K-1, could attract additional
 institutional and foreign investors.



Marathon Petroleum Corp. (MPC)

TJ Schultz, Analyst (512) 708-6385 tj.schultz@rbccm.com

- Capital returns. MPC has remained focused on returning capital to shareholders in the form of dividend payments and share repurchases. MPC maintained its quarterly dividend at \$0.75/share, which is ~\$337mm/quarter. MPC has repurchased a significant number of shares, which has resulted in multiple incremental increases of its share repurchase authorization, and has ~\$9.0B remaining as of 5/2/23. We expect MPC to continue being active on the remaining repurchase authorization to return capital to shareholders.
- Renewable fuels. MPC has continued to progress on the Martinez renewable fuels
 conversion project, as the facility reached capacity of 260mm gal/yr of renewable
 fuels following completion of Phase I, and Phase II is expected to be completed by
 year end with 730mm gal/yr of capacity.
- Constructive refining margins. Along with the rest of the refiner group, MPC has benefited from strong refining margins from higher cracks and wider spreads. We expect these positive margins to continue into 2023 above historical mid-cycle levels.

Pembina Pipeline Corporation (PPL)

Robert Kwan, Analyst (604) 257-7611 robert.kwan@rbccm.com

- Positioned to benefit from higher WCSB production. Whether it be uncontracted capacity or within its contract structures that blend minimum take-or-pay levels with fee- for-service upside as volumes grow, we expect Pembina to benefit from growing gas and liquids volumes in the Western Canada Sedimentary Basin (WCSB). Further, growing volumes could result in contract extensions and/or incremental new contracts that support Pembina's base business and/or underpin new expansion projects.
- Free cash flow generation after all capex and dividend payments provides a range
 of capital allocation opportunities. In 2022, the company prioritized share buybacks
 with the strategy going forward focused on creating balance sheet optionality by
 reducing leverage. Lower debt levels should position the company to pursue a widerange of growth initiatives on an equity self-funded basis.
- Solid base of business with a commodity kicker. Pembina's guardrails target over 80% of EBITDA coming from fee- based revenues, primarily underpinned by take-orpay or cost-of-service contracts, which underpin the dividend. As upside optionality, Pembina's Marketing division can benefit from leveraging its asset base to take advantage of various commodity spreads.

Permian Resources Corporation (PR)

Scott Hanold, Analyst (512) 708-6354 scott.hanold@rbccm.com

- We believe PR shares should outperform the peer group over the next 12 months.
 The company has large, contiguous acreage positions in the core of the southern and northern Delaware Permian with a 10-15 year inventory.
- **Strong free cash flow**. We forecast that PR is capable of generating among peer-leading FCF yields that can support a robust shareholder-return strategy.
- Balance sheet strength and shareholder returns. Balance sheet leverage is at a
 sustainable sub-1.0x ratios. Management is prioritizing shareholder returns,
 particularly with dividends and plans a strong fixed dividend along with a minimum
 50% variable payout of FCF. Dividends are more the focus, but buybacks will occur
 opportunistically, especially if private equity sponsor selling occurs. Asset
 optimization is a priority and should add to shareholder value.



PG&E Corporation (PCG) Shelby G. Tucker, Analyst (212) 428-6462 shelby.tucker@rbccm.com

- Continued reduction of wildfire risk. The company continues to execute on its
 wildfire mitigation plan. Mitigation actions include system hardening,
 undergrounding, vegetation management, enhanced powerline safety settings and
 public safety power shutoffs.
- Steep discount not-warranted given CA wildfire protections limit financial risk. We
 believe the Wildfire Fund provides meaningful protections against financial liabilities
 associated with wildfires. While it seems the market remains apprehensive around
 the mechanics of the fund, we believe the multi-turn discount is overly punitive
 when considering the financial risks associated with a catastrophic fire.
- PG&E slowly rebuilding trust. While the name remains overly-sensitive to headlines,
 we have also seen a meaningful shift in tone from media and stakeholders. We
 believe is a result of PG&E's continued efforts to engage stakeholders and
 communities and we are encouraged by positive signals from the CA legislature and
 regulator.
- Robust capex plan drives earnings growth. PG&E expects above-average rate base
 growth at a 9% CAGR. Growth opportunities come from system hardening,
 undergrounding, electrification opportunities and other wildfire mitigation
 investments. Management targets 2% O&M reductions should act to help offset
 customer bill increases.



Santos Limited (STO)
Gordon Ramsay, Analyst
+61 3 8688 6578
gordon.ramsay@rbccm.com

- Santos has a diversified production base (56% LNG, 29% domestic gas, and 15% crude oil and liquids) and improved growth profile (Pikka Alaska oil, Papua LNG, Dorado oil and gas) after merging with Oil Search last year. Santos is targeting ~25% of its LNG portfolio to be JKM-linked once Barossa comes online.
- Capital management based on at least a 40% payout of FCF from operations (excludes major growth) per annum and the company will consider additional returns from asset divestments. Once Barossa and Pikka Phase 1 commence production, Santos Board intends to consider increasing returns to at least 50% of FCF. In December 2022, Santos increased its on market buy back by US\$350m, and it is still ongoing. We see future capital management initiatives driven by asset sales, particularly the sale of 5% of PNG LNG to Kumul Petroleum (STO US\$1.1bn net) and other potential asset equity sell-downs (e.g. Dorado).
- Largest acreage holder and producer of hydrocarbons in PNG. Santos has 42.5% equity exposure to the long life Exxon Mobil operated PNG LNG project and we expect the sale to Kumul to settle in 2H 2023, subject to Kumul financing (Kumul's exclusivity was recently extended for a second time to 31 August). Santos has 22.8% equity (pre back-in) in the proposed TotalEnergies operated Papua LNG project. The four mini eLNG train Papua downstream development offers operating efficiencies and capex savings in comparison to the prior two train conventional train design.
- One of Australia's largest LNG suppliers to Asia. Santos LNG portfolio (PNG LNG, DLNG, GLNG, and proposed Papua LNG) provides attractive long-term cash flows, with a balance of oil linked contracts and Asian spot JKM LNG pricing. The Barossa project provides new backfill gas that materially extends the life of the Darwin LNG plant, with first production expected in 2025 despite an environmental challenge that has suspended drilling activities. The Papua LNG joint venture has committed to project FEED, expected to be FID ready by the end of 2023 / early 2024, and targeting start-up by the end of 2027 / early 2028.
- Two major oil developments in progress. The Pikka Alaska oil project (STO 51% and operator) reached FID in August 2022, with project drilling planned to commence in 2Q 2023 and modular facility construction in 1H 2023. Santos is targeting first Pikka oil in 2026 at an expected production rate of 80,000 bopd gross. The Dorado integrated oil and gas development (STO 70% and operator) offshore Western Australia has achieved regulatory approval and is targeting to be FID ready in 2023/24. Santos has forecast initial Dorado oil production of ~100,000 bopd (gross).
- A leading global CCS developer. Santos policy is that new offshore greenfield projects committed from 2025 will have abatement, or an offset of reservoir CO2 emissions before achieving FID. Santos is completing Moomba CCS Phase 1 as a low-cost 1.7 mmtpa CO 2 storage project in the Cooper Basin. Moomba capex is ~US\$165m gross, with a full life cycle cost <A\$30/t CO2, and first gas injection in 2024. Bayu-Undan CCS FEED is nearing completion to capture Barossa CO2 and third party CO2 and has MOUs with four potential customers for up to 10 MtCO2pa.</p>



SLB (SLB)

Keith Mackey, Analyst (403) 299-6958 keith.mackey@rbccm.com

- Leading size, scale, geographic reach. SLB's size, scale, geographic diversification, and exposure to new energy sources leave it favorably positioned under prevailing industry trends, in our view. We believe SLB is well-positioned to benefit from the next leg of growth in International markets. International short and longer cycle investment is increasing, led by Latin America, the Middle East, and key offshore basins.
- Digital evolution to drive financial results. Growing contribution from the Digital
 and Integration business line should drive margin accretion over time. Integrated
 digital platform adoption also improves revenue stability and provides competitive
 advantage as the E&P industry increasingly embraces efficiencies. Over time, we
 believe the reduced capital intensity should drive improvement in the company's
 financial metrics.
- International upcycle: less nascent. SLB is well-positioned to benefit from the next leg of growth in International markets. In 2Q23 SLB's y/y North American revenue increased 14%, while International grew 21%, led by Middle East, and offshore. The company noted the Middle East is set to lead growth with this cycle characterized by the region's plans to add oil and gas productive capacity.
- Potential for long-term valuation accretion. We believe SLB's exposure to a large addressable New Energy market should drive accretion to its valuation multiples over time. Key target markets include: carbon capture, hydrogen, geothermal, critical minerals, and energy storage.
- See our latest SLB note here.

Suncor Energy Inc. (SU)

Greg Pardy, Head of Global Energy Research (416) 842-7848 greg.pardy@rbccm.com

- New leadership in place. On February 21, Suncor announced Rich Kruger as its new President & CEO. The new leadership change became effective as of April 3, 2023. We know Rich well from his days at Imperial Oil and we are pleased that Kris Smith will remain in a leadership role with Suncor as he plans to take the reins as CFO—laying a clear CEO succession path in our minds. We are also pleased that former CFO, Alister Cowan, will remain with the company to provide advisory services until the end of 2023 to ensure a smooth transition.
- Nothing Ventured, Nothing Gained. Suncor Energy's indication that it would assess its stance vis-à-vis its announced \$5.5 billion TotalEnergies deal is logical given ConocoPhillips's notification on May 26 that it would exercise its preemptive right (ROFR) to acquire the remaining 50% interest in Surmont from TotalEnergies. This assessment includes Suncor's right to terminate the agreement—or walk away. We still believe that Suncor is interested in acquiring the 31.23% interest in Fort Hills owned by TotalEnergies at the right price.
- Accelerated shareholder returns. The main consolation prize from ConocoPhillips' decision is that Suncor can now achieve its intermediate \$12-\$15 billion net debt (including lease liabilities) target range sooner than before. The company is currently allocating 50% of excess funds flow to share repurchases, with the balance earmarked for ongoing debt reduction. Upon reaching \$12 billion of net debt, Suncor will then boost its share repurchases to 75% of excess funds. Suncor's net debt (company definition) sat at \$15.7 billion (including lease liabilities of \$3.3 billion) as of March 31. Under futures pricing—inclusive of the \$1.5 billion Fort Hills deal—Suncor could achieve its \$12 billion target in 2024.
- Strong free cash flow profile. We peg Suncor's free cash flow (before dividends, working capital changes, excluding A&D and capitalized interest) at \$6.4 billion in 2023 under our base outlook (US\$76 WTI, US\$31 NYH 3-2-1). Our outlook factors in a refining & marketing (pre-tax) FFO of \$4.2 billion in 2023.



Superior Plus (SPB) Nelson Ng, Analyst (604) 257-7617 nelson.ng@rbccm.com

- Strategic acquisition expands business into CNG/RNG/H2. The \$1.05 billion Certarus acquisition (closed at the end of May 2023) ticks many of the boxes with respect to having a strategic and complementary fit (reduces seasonality and provides opportunities to cross sell propane), is double-digit accretive to distributable cash flow per share and has a strong organic growth profile, while also reducing the company's leverage. The business exceeded management expectations in Q1/23, leading to an increase in 2023 guidance. Please click here for our note covering the transaction.
- CEO focused on organic growth. Allan MacDonald believes that he was selected as the CEO because the board wanted to leverage his operational experience at Canadian Tire and Bell to organically grow Superior Plus and make incremental improvements in the propane division. While management will continue to assess propane M&A opportunities, the primary focus will be driving Certarus' organic growth. We estimate that SPB can deploy ~\$300 million annually into growth capex, so we see room for investing in Certarus (~\$100 million in 2023) and propane M&A.
- Attractive capital return economics. Due to the strong demand for mobile storage units (MSUs), Certarus has pricing power and targets \$240k/MSU of EBITDA annually, and management expect tailwinds will drive EBITDA closer to \$270k/MSU in 2023. We estimate that the cost of a MSU, plus the supporting infrastructure (e.g., compressors and de-compressors), totals ~\$800-900k, equating to a 3-4x EBITDA investment multiple (3-4 year payback period). In comparison, we estimate that Superior Plus' propane acquisitions are at a post synergies EBITDA multiple of 6.0-7.5x.



Targa Resources Corp. (TRGP)
TJ Schultz, Analyst
(512) 708-6385

ti.schultz@rbccm.com

- Best way to play Permian and commodity upside. Among midstream, we think TRGP
 will correlate best to constructive commodity tape in 2023. We like TRGP's top-tier
 platform in the Permian, coupled with integration to the docks on the Gulf Coast.
- Growth projects. TRGP has announced numerous organic growth projects that are
 expected to supplement and grow its cash flow. These projects include multiple
 processing plants in the Permian, Train 9 fractionator in Mont Belvieu under
 construction and the greenlight of Train 10, and the Daytona NGL pipeline (twinning
 of the west leg of Grand Prix) that will support NGL volume growth from the Permian
 G&P assets and new plants under construction.
- Financial flexibility. Maintaining its healthy investment grade balance sheet is a key
 focus point for TRGP when making decisions. Flexibility has improved as leverage is
 trending lower and the structure simplification (DevCo repurchase and redemption
 of outstanding Series A Preferreds) has allowed for more impactful progress. This
 flexibility allows for TRGP to continue investing in organic growth projects, while
 returning meaningful capital to shareholders.
- M&A. TRGP has contributed to some midstream consolidation with multiple acquisitions. In July 2022, TRGP completed its acquisition of Lucid Energy's Permian Delaware Basin G&P assets for \$3.55B (TRGP estimates a 2023E EBITDA multiple of 7.5x), which include 1,050 miles of natural gas pipelines and 1.4 Bcf/d of processing capacity in New Mexico. TRGP also acquired South TX assets from Southcross which have performed as expected and was an ideal acquisition given the stickier volumes provided from gathering to the wellhead. M&A will remain a part of TRGP's strategy with location and potential for immediate synergies being the key, but is not needed for the company to experience growth.
- FCF and capital allocation. Outlook for FCF is solid at our price deck, as we expect that TRGP can generate meaningful FCF in 2024 even with ~\$50mm/quarter of estimated stock buybacks through 2024 and another step-up in the dividend to \$2.40/share, which should allow for debt leverage (post Lucid) to be back below 3x. In addition to debt reduction, TRGP will have many options for usage of the FCF including (i) additional dividend growth, (ii) additional common stock buybacks, and (iii) higher capex.



Topaz Energy (TPZ)

Luke Davis, Analyst (403) 299-5042 luke.davis@rbccm.com

- Diversified royalty model with a natural gas tilt. Topaz's 2023E/24E production profile remains 70%/68% gas-weighted. Topaz is supported by some of the top operators in the WCSB. Notably, Tourmaline Oil has outlined a 5-year plan in NEBC Montney that is estimated to increase Topaz's regional volumes from 6,800 boe/d in 2022 to over 10,000 boe/d by 2028 (13% 8-year CAGR). Topaz's Deltastream acquisition (note here), has positioned the company as the top Clearwater exposed royalty co by volumes, now holding 52% of pro-forma OOIP at Marten Hills and Nipisi. The team anticipates averaging 2,850 bbl/d of total Clearwater production in 2023, exceeding 3,000 bbl/d by 2024E. The royalty business model is insulated from industry cost inflation, providing margin stability.
- Resilient infrastructure model. Topaz holds working interests in six facilities backed by long-term take-or-pay commitments, a contracted interest in a portion of Tourmaline's third-party revenues, and a 49.5% interest in two water handling facilities. Most recently, the company closed an acquisition of a non-op interest in Tamarack's Wembley gas plant and oil battery, on a 15-year, fixed take-or-pay contract. Topaz's infrastructure portfolio is expected to generate \$69.0/\$57.5 million in 2023E revenue and FCF, covering 40% of the 2023E dividend. Infrastructure portfolio growth remains an area of focus with management targeting a long-term 50-50 EBITDA split between the infrastructure and royalty business.
- FCF allocation balanced between RoC and debt reduction. Topaz increased its annual dividend by 3% to \$1.24/sh (~6% dividend yield) with Q2/23 results following its Wembley gas plant acquisition; we now estimate a 64%/54% effective payout ratio in 2023E/24E. The company is able to balance its RoC program with continued deleveraging efforts, with our model pointing towards roughly \$26 million in quarterly post-dividend FCF, on average, through H2/23.

Tourmaline Oil (TOU) Michael Harvey, Analyst (403) 299-6998 michael.harvey@rbccm.com

- Natural gas weakness provides buying opportunity. Weaker natural gas prices
 provide a buying opportunity for the Western Canada Sedimentary Basin (WCSB)
 natural gas producer that is returning meaningful capital to shareholders plus still
 growing modestly (+7%/year CAGR in the current plan), while being mindful that
 basin growth much beyond this figure could start to drive egress constraints.
- Cheniere export agreement a well-timed deal. We estimate US\$1 increase in JKM pricing to result in roughly C\$50-55 mm of incremental after-tax cash flow in 2023. TOU has hedged approximately 10% of the JKM volumes at an average price of ~US\$23/mmbtu, and we would expect the company to take advantage of the current strength by layering on additional hedges at even more attractive prices. See our note here.
- Return of capital, with the vast majority of FCF to be returned. TOU announced special dividends for Q1/23, with \$2.00/sh payable on Feb 1. Our outlook now calls for two base dividend increases in 2023 (to \$1.04/share annualized) on top of \$5.50/sh specials annualized in 2023. As of July 28 on strip pricing, TOU is expected to generate \$2.3-2.5bn in FCF on current strip in 2023 (or about \$2.4bn at the RBC Deck). See our note here and recent retail presentation note here.
- High quality asset base, with North Montney driving the growth. TOU's 5-year plan now includes development of its Northern Montney asset Conroy, pushing corporate volumes to 700,000 boe/d by 2028. TOU expects Conroy to grow to ~100,000 boe/d in 2 tranches, with on-stream dates of 2026 and 2028 (set to coincide with the startup of LNG Canada). The plan incorporates capex spend of roughly half of forecasted cash flows, leaving meaningful capacity for RoC programs. TOU remains well situated as it relates to LNG exposure in NE BC, a topic we explored in recent reports here (1,2,3,4).



Portfolio tracking

The RBC Capital Markets Global Energy Best Ideas List highlights our Research Analysts' highest conviction names across the global energy sector at the time of their addition into the list. Our objective is to highlight individual stocks that are expected to outperform the iShares Global Energy ETF (IXC) and a hybrid benchmark with a weighting towards the iShares Global Utilities ETF (JXI).

A long-only portfolio, the RBC Capital Markets Global Energy Best Ideas List is set up as follows:

- There is no limit to the number of names included in the RBC Capital Markets Global Energy Best Ideas List.
- Individual holdings are deemed to be weighted equally, with weights reset every month or any time that there is a change to the list.
- Names added to the list will remain on the list for at least one full month, i.e., there will be no mid-month additions/deletions. If we discontinue research coverage of a company included on the RBC Global Energy Best Ideas List, the stock will be removed from the list as of the next monthly publication.
- The RBC Global Energy Best Ideas has a mandatory stop loss mechanism as follows: a stock
 will be removed from the list if it is down 20% in the current year or down 20% since being
 added to the list.
- We will use the most recent closing price prior to the list being published, unless noted otherwise, as the price used for performance calculations. Therefore, any additions to or deletions from the list are recorded as have being made at their most recent closing price.
- Dividends will be added to returns from stock price movements on the day that stocks go ex. dividend.
- We will provide a monthly update on the constituent names of the list as well as past performance on or around the start of each month.
- We will include only stocks on which we have research coverage.
- We do not make provisions for taxes and/or trading commissions when adding or removing stocks from the portfolio.

Note: Total return data for the list as well as relevant indices are from Bloomberg and FactSet.



Contributing Authors

RBC Dominion Securities Inc.

Greg Pardy (Head of Global Energy Research)	(416) 842-7848	greg.pardy@rbccm.com
Robert Kwan (Analyst)	(604) 257-7611	robert.kwan@rbccm.com
Michael Harvey (Analyst)	(403) 299-6998	michael.harvey@rbccm.com
Nelson Ng (Analyst)	(604) 257-7617	nelson.ng@rbccm.com
Luke Davis (Analyst)	(403) 299-5042	luke.davis@rbccm.com
Keith Mackey (Analyst)	(403) 299-6958	keith.mackey@rbccm.com

RBC Europe Limited

Biraj Borkhataria (Associate Director of European Research)	+44 20 7029 7556	biraj.borkhataria@rbccm.com
Victoria McCulloch (Analyst)	44 20 7429 8530	victoria.mcculloch@rbccm.com

RBC Capital Markets, LLC

Scott Hanold (Analyst)	(512) 708-6354	scott.hanold@rbccm.com
Elvira Scotto (Analyst)	(212) 905-5957	elvira.scotto@rbccm.com
TJ Schultz (Analyst)	(512) 708-6385	tj.schultz@rbccm.com
Shelby Tucker (Analyst)	(212) 428-6462	shelby.tucker@rbccm.com

Royal Bank of Canada, Sydney Branch

Gordon Ramsay (Ar	nalyst)	+61 3 8688 6578	gordon.ramsay@rbccm.com



Companies mentioned

California Resources Corporation (NYSE: CRC US; \$53.35; Outperform) Range Resources Corporation (NYSE: RRC US; \$31.43; Outperform)

Shell PLC (LSE: SHEL LN; GBp2,366.00; Outperform)

Required disclosures

Non-U.S. analyst disclosure

One or more research analysts involved in the preparation of this report (i) may not be registered/qualified as research analysts with the NYSE and/or FINRA and (ii) may not be associated persons of the RBC Capital Markets, LLC and therefore may not be subject to FINRA Rule 2241 restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account.

Conflicts disclosures

This product constitutes a compendium report (covers six or more subject companies). As such, RBC Capital Markets chooses to provide specific disclosures for the subject companies by reference. To access conflict of interest and other disclosures for the subject companies, clients should refer to https://www.rbccm.com/GLDisclosure/PublicWeb/DisclosureLookup.aspx?entityId=1. These disclosures are also available by sending a written request to RBC Capital Markets Research Publishing, P.O. Box 50, 200 Bay Street, Royal Bank Plaza, 29th Floor, South Tower, Toronto, Ontario M5J 2W7 or an email to rbcinsight@rbccm.com.

The analyst(s) responsible for preparing this research report received compensation that is based upon various factors, including total revenues of the member companies of RBC Capital Markets and its affiliates, a portion of which are or have been generated by investment banking activities of the member companies of RBC Capital Markets and its affiliates.

With regard to the MAR investment recommendation requirements in relation to relevant securities, a member company of Royal Bank of Canada, together with its affiliates, may have a net long or short financial interest in excess of 0.5% of the total issued share capital of the entities mentioned in the investment recommendation. Information relating to this is available upon request from your RBC investment advisor or institutional salesperson.

Explanation of RBC Capital Markets Equity rating system

An analyst's 'sector' is the universe of companies for which the analyst provides research coverage. Accordingly, the rating assigned to a particular stock represents solely the analyst's view of how that stock will perform over the next 12 months relative to the analyst's sector average.

Ratings

Outperform (O): Expected to materially outperform sector average over 12 months.

Sector Perform (SP): Returns expected to be in line with sector average over 12 months.

Underperform (U): Returns expected to be materially below sector average over 12 months.

Restricted (R): RBC policy precludes certain types of communications, including an investment recommendation, when RBC is acting as an advisor in certain merger or other strategic transactions and in certain other circumstances.

Not Rated (NR): The rating, price targets and estimates have been removed due to applicable legal, regulatory or policy constraints which may include when RBC Capital Markets is acting in an advisory capacity involving the company.

Risk Rating

The **Speculative** risk rating reflects a security's lower level of financial or operating predictability, illiquid share trading volumes, high balance sheet leverage, or limited operating history that result in a higher expectation of financial and/or stock price volatility.



Distribution of ratings

For the purpose of ratings distributions, regulatory rules require member firms to assign ratings to one of three rating categories - Buy, Hold/Neutral, or Sell - regardless of a firm's own rating categories. Although RBC Capital Markets' ratings of Outperform (O), Sector Perform (SP), and Underperform (U) most closely correspond to Buy, Hold/Neutral and Sell, respectively, the meanings are not the same because our ratings are determined on a relative basis.

Distribution of ratings					
	RBC Capital Marke	ts, Equity Research	1		
	As of 30-	Jun-2023			
			Investment Ban	king	
Serv./Past 12 Mos.				los.	
Rating	Count	Percent	Count	Percent	
BUY [Outperform]	832	57.22	250	30.05	
HOLD [Sector Perform]	573	39.41	138	24.08	
SELL [Underperform]	49	3.37	3	6.12	

Conflicts policy

RBC Capital Markets Policy for Managing Conflicts of Interest in Relation to Investment Research is available from us on request. To access our current policy, clients should refer to

https://www.rbccm.com/global/file-414164.pdf

or send a request to RBC Capital Markets Research Publishing, P.O. Box 50, 200 Bay Street, Royal Bank Plaza, 29th Floor, South Tower, Toronto, Ontario M5J 2W7. We reserve the right to amend or supplement this policy at any time.

Dissemination of research

RBC Capital Markets endeavors to make all reasonable efforts to provide research content simultaneously to all eligible clients, having regard to local time zones in overseas jurisdictions. RBC Capital Markets provides eligible clients with access to Research Reports on the Firm's proprietary INSIGHT website, via email and via third-party vendors. Please contact your investment advisor or institutional salesperson for more information regarding RBC Capital Markets' research.

For a list of all recommendations on the company that were disseminated during the prior 12-month period, please click on the following link: https://rbcnew.bluematrix.com/sellside/MAR.action

The 12 month history of Quick Takes can be viewed at RBC Insight.

Analyst certification

All of the views expressed in this report accurately reflect the personal views of the responsible analyst(s) about any and all of the subject securities or issuers. No part of the compensation of the responsible analyst(s) named herein is, or will be, directly or indirectly, related to the specific recommendations or views expressed by the responsible analyst(s) in this report.

Third-party disclaimers

The Global Industry Classification Standard ("GICS") was developed by and is the exclusive property and a service mark of MSCI Inc. ("MSCI") and Standard & Poor's Financial Services LLC ("S&P") and is licensed for use by RBC. Neither MSCI, S&P, nor any other party involved in making or compiling the GICS or any GICS classifications makes any express or implied warranties or representations with respect to such standard or classification (or the results to be obtained by the use thereof), and all such parties hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability and fitness for a particular purpose with respect to any of such standard or classification. Without limiting any of the foregoing, in no event shall MSCI, S&P, any of their affiliates or any third party involved in making or compiling the GICS or any GICS classifications have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages.

RBC Capital Markets disclaims all warranties of originality, accuracy, completeness, merchantability or fitness for a particular purpose with respect to any statements made to the media or via social media that are in turn quoted in this report, or otherwise reproduced graphically for informational purposes.

Disclaimer

RBC Capital Markets is the business name used by certain branches and subsidiaries of the Royal Bank of Canada, including RBC Dominion Securities Inc., RBC Capital Markets, LLC, RBC Europe Limited, RBC Capital Markets (Europe) GmbH, Royal Bank of Canada, Hong Kong Branch, Royal Bank of Canada, Singapore Branch and Royal Bank of Canada, Sydney Branch. The information contained in this report has been compiled by RBC Capital Markets from sources believed to be reliable, but no representation or warranty, express or implied, is made by Royal Bank of Canada, RBC Capital Markets, its affiliates or any other person as to its accuracy, completeness or correctness. All opinions and estimates contained in this report constitute RBC Capital Markets" judgement as of the date of this report, are subject to change without notice and are provided in good faith but without legal responsibility. Nothing in this report constitutes legal, accounting or tax advice or individually tailored investment advice. This material is prepared for general circulation to clients and has been prepared without regard to the individual financial



circumstances and objectives of persons who receive it. The investments or services contained in this report may not be suitable for you and it is recommended that you consult an independent investment advisor if you are in doubt about the suitability of such investments or services. This report is not an offer to sell or a solicitation of an offer to buy any securities. Past performance is not a guide to future performance, future returns are not guaranteed, and a loss of original capital may occur. RBC Capital Markets research analyst compensation is based in part on the overall profitability of RBC Capital Markets, which includes profits attributable to investment banking revenues. Every province in Canada, state in the U.S., and most countries throughout the world have their own laws regulating the types of securities and other investment products which may be offered to their residents, as well as the process for doing so. As a result, the securities discussed in this report may not be eligible for sale in some jurisdictions. RBC Capital Markets may be restricted from publishing research reports, from time to time, due to regulatory restrictions and/or internal compliance policies. If this is the case, the latest published research reports available to clients may not reflect recent material changes in the applicable industry and/or applicable subject companies. RBC Capital Markets research reports are current only as of the date set forth on the research reports. This report is not, and under no circumstances should be construed as, a solicitation to act as securities broker or dealer in any jurisdiction by any person or company that is not legally permitted to carry on the business of a securities broker or dealer in that jurisdiction. To the full extent permitted by law neither RBC Capital Markets nor any of its affiliates, nor any other person, accepts any liability whatsoever for any direct, indirect or consequential loss arising from, or in connection with, any use of this report or the information c

Additional information is available on request.

To U.S. Residents:

This publication has been approved by RBC Capital Markets, LLC (member FINRA, NYSE, SIPC), which is a U.S. registered broker-dealer and which accepts responsibility for this report and its dissemination in the United States. Any U.S. recipient of this report that is not a registered broker-dealer or a bank acting in a broker or dealer capacity and that wishes further information regarding, or to effect any transaction in, any of the securities discussed in this report, should contact and place orders with RBC Capital Markets, LLC.

To Canadian Residents:

This publication has been approved by RBC Dominion Securities Inc. (member CIRO). Any Canadian recipient of this report that is not a Designated Institution in Ontario, an Accredited Investor in British Columbia or Alberta or a Sophisticated Purchaser in Quebec (or similar permitted purchaser in any other province) and that wishes further information regarding, or to effect any transaction in, any of the securities discussed in this report should contact and place orders with RBC Dominion Securities Inc., which, without in any way limiting the foregoing, accepts responsibility for this report and its dissemination in Canada.

To U.K. Residents:

This publication has been approved by RBC Europe Limited ('RBCEL') which is authorized by the Prudential Regulation Authority and regulated by the Financial Conduct Authority ('FCA') and the Prudential Regulation Authority, in connection with its distribution in the United Kingdom. This material is not for general distribution in the United Kingdom to retail clients, as defined under the rules of the FCA. RBCEL accepts responsibility for this report and its dissemination in the United Kingdom.

To EEA Residents:

This material is distributed in the EU by either RBCEL on an authorised cross-border basis, or by RBC Capital Markets (Europe) GmbH (RBC EG) which is authorised and regulated in Germany by the Bundesanstalt für Finanzdienstleistungsaufsicht (German Federal Financial Supervisory Authority) (BaFin).

To Persons Receiving This Advice in Australia:

This material has been distributed in Australia by Royal Bank of Canada, Sydney Branch (ABN 86 076 940 880, AFSL No. 246521). This material has been prepared for general circulation and does not take into account the objectives, financial situation or needs of any recipient. Accordingly, any recipient should, before acting on this material, consider the appropriateness of this material having regard to their objectives, financial situation and needs. If this material relates to the acquisition or possible acquisition of a particular financial product, a recipient in Australia should obtain any relevant disclosure document prepared in respect of that product and consider that document before making any decision about whether to acquire the product. This research report is not for retail investors as defined in section 761G of the Corporations Act.

To Hong Kong Residents:

This publication is distributed in Hong Kong by Royal Bank of Canada, Hong Kong Branch, which is regulated by the Hong Kong Monetary Authority and the Securities and Futures Commission (SFC) in Hong Kong, RBC Investment Services (Asia) Limited and RBC Global Asset Management (Asia) Limited, both entities are regulated by the SFC. This material is not for general distribution in Hong Kong to persons who are not professional investors (as defined in the Securities and Futures Ordinance of Hong Kong (Cap. 571) and any rules made thereunder.

To Singapore Residents:

This publication is distributed in Singapore by the Royal Bank of Canada, Singapore Branch, a registered entity licensed by the Monetary Authority of Singapore. This material has been prepared for general circulation and does not take into account the objectives, financial situation, or needs of any recipient. You are advised to seek independent advice from a financial adviser before purchasing any product. If you do not obtain independent advice, you should consider whether the product is suitable for you. Past performance is not indicative of future performance. If you have any questions related to this publication, please contact the Royal Bank of Canada, Singapore Branch. Royal Bank of Canada, Singapore Branch accepts responsibility for this report and its dissemination in Singapore.

To Japanese Residents

Unless otherwise exempted by Japanese law, this publication is distributed in Japan by or through RBC Capital Markets (Japan) Ltd. which is a Financial Instruments Firm registered with the Kanto Local Financial Bureau (Registered number 203) and a member of the Japan Securities Dealers Association (JSDA) and the Financial Futures Association of Japan (FFAJ).

Registered trademark of Royal Bank of Canada. RBC Capital Markets is a trademark of Royal Bank of Canada. Used under license.
 Copyright © RBC Capital Markets, LLC 2023 - Member SIPC

Copyright © RBC Dominion Securities Inc. 2023 - Member Canadian Investor Protection Fund
Copyright © RBC Europe Limited 2023
Copyright © Royal Bank of Canada 2023
All rights reserved