

Summary Prospectus

May 9, 2025



Tortoise Energy Infrastructure Total Return Fund

A Class: TORTX

Institutional Class: TORIX

C Class: TORCX

T Class: Not available for purchase

Before you invest, you may want to review the Tortoise Energy Infrastructure Total Return Fund's (the "Fund") prospectus, which contains more information about the Fund and its risks. The current Statutory Prospectus and Statement of Additional Information dated May 9, 2025, are incorporated by reference into this Summary Prospectus. You can find the Fund's Statutory Prospectus, Statement of Additional Information, reports to shareholders and other information about the Fund online at <https://oef.tortoisecapital.com/funds/tortoise-energy-infrastructure-total-return-fund-inst/#literature>. You can also get this information at no cost by calling the Fund (toll-free) at 855-TCA-Fund (855-822-3863) or by sending an e-mail request to info@tortoisecapital.com.

Investment Objective

Tortoise Energy Infrastructure Total Return Fund, a series of Tortoise Capital Series Trust (the “Fund”), seeks total return.

Fees and Expenses of the Fund

This table describes the fees and expenses you may pay if you buy, hold and sell shares of the Fund. **You may pay other fees, such as brokerage commissions and other fees to financial intermediaries, which are not reflected in the table and example below.** You may qualify for sales charge discounts if you and your family invest, or agree to invest in the future, at least \$50,000 in A Class shares of funds in the Tortoise fund family. Sales loads and waivers may vary by financial intermediary. For more information on specific financial intermediary sales loads and waivers, see Appendix A to the statutory Prospectus. More information about these and other discounts is available from your financial professional and in the “Shareholder Information — Class Descriptions” section of the Fund’s Statutory Prospectus on page 41.

Shareholder Fees

(fees paid directly from your investment)

	A Class	Institutional Class	C Class	T Class
Maximum Front-End Sales Charge (Load) Imposed on Purchases (as a percentage of the offering price)	5.50%	None	None	2.50%
Maximum Deferred Sales Charge (Load) (as a percentage of initial investment or the value of the investment at redemption, whichever is lower)	None ⁽¹⁾	None	1.00% ⁽²⁾	None
Redemption Fee	None	None	None	None

Annual Fund Operating Expenses

(expenses that you pay as a percentage of the value of your investment)

Management Fees	0.85%	0.85%	0.85%	0.85%
Distribution and Service (Rule 12b-1) Fees	0.25%	0.00%	1.00%	0.25%
Other Expenses ⁽³⁾	0.07%	0.07%	0.07%	0.07%
Total Annual Fund Operating Expenses	1.17%	0.92%	1.92%	1.17%

- (1) No sales charge is payable at the time of purchase on investments of \$1 million or more, although the Fund may impose a Contingent Deferred Sales Charge (“CDSC”) of 1.00% on certain redemptions. If imposed, the CDSC applies to redemptions made within 12 months of purchase and will be assessed on an amount equal to the lesser of the initial value of the shares redeemed and the value of shares redeemed at the time of redemption.
- (2) The CDSC applies to redemptions made within 12 months of purchase and will be assessed on an amount equal to the lesser of the initial investment of the shares redeemed and the value of the shares redeemed at the time of redemption.
- (3) Because the Fund is new, “Other Expenses” are based on estimated amounts for the current fiscal year.

Example

This example is intended to help you compare the cost of investing in the Fund with the cost of investing in other funds. The example assumes that you invest \$10,000 in the Fund for the time periods indicated and then redeem all of your shares at the end of those periods. The example also assumes that your investment has a 5% return each year and that the Fund’s operating expenses

remain the same. You may be required to pay brokerage commissions on your purchases and sales of Institutional Class shares of the Fund from a financial intermediary, which are not reflected in the example.

Although your costs may be higher or lower, based on these assumptions your costs would be:

	One Year	Three Years	Five Years	Ten Years
A Class	\$663	\$901	\$1,158	\$1,892
Institutional Class	\$94	\$293	\$509	\$1,131
C Class	\$295	\$603	\$1,037	\$2,243
T Class	\$366	\$612	\$878	\$1,635

You would pay the following expenses if you did not redeem your shares:

	One Year	Three Years	Five Years	Ten Years
C Class	\$195	\$603	\$1,037	\$2,243

Portfolio Turnover

The Fund pays transaction costs, such as commissions, when it buys and sells securities (or “turns over” its portfolio). A higher portfolio turnover may indicate higher transaction costs and may result in higher taxes when Fund shares are held in a taxable account. These costs, which are not reflected in annual fund operating expenses or in the example, affect the Fund’s performance. Because the Fund is newly offered, portfolio turnover information is not available. During the most recent fiscal year ended November 30, 2024, the Predecessor Fund’s (defined hereinafter) portfolio turnover rate was 22%.

Principal Investment Strategies

The Fund is a non-diversified series of Tortoise Capital Series Trust and is regulated as an “investment company” under the Investment Company Act of 1940, as amended (the “1940 Act”). The Fund is actively managed and does not seek to track the performance of an index. The Fund’s investment objective to seek total return is non-fundamental.

Under normal circumstances, the Fund will invest at least 80% of its net assets plus the amount of any borrowings for investment purposes in securities of energy infrastructure companies. Energy infrastructure companies are companies that process, store, transport and market natural gas, natural gas liquids, refined products and crude oil (i.e., midstream infrastructure) as well as generate, transport and distribute electricity (i.e., power & renewable infrastructure). The Fund intends to focus its investments primarily in equity securities of midstream infrastructure and also may invest in midstream master limited partnerships (“MLPs”) and power and renewable infrastructure. MLPs, also known as publicly traded partnerships, predominately operate, or directly or indirectly own, energy-related assets. For purposes of this strategy, energy infrastructure companies include investment companies that invest primarily in energy infrastructure companies. The Fund is non-diversified.

The Fund seeks to achieve its investment objective by investing primarily in equity securities of any market capitalization that are publicly traded on an exchange or in the over-the-counter market, consisting of common stock, but also including, among others, MLP and limited liability company (“LLC”) common units; the equity securities issued by MLP affiliates, such as common shares of corporations that own, directly or indirectly, MLP general partner interests; and other investment companies that invest in energy infrastructure companies.

MLP common units represent an equity ownership interest in an MLP. Some energy infrastructure companies in which the Fund may invest are organized as LLCs which are treated in the same manner as MLPs for federal income tax purposes. The Fund may invest in LLC common units which represent an ownership interest in the LLC. Interests in MLP and LLC common units entitle the holder to a share of the company's success through distributions and/or capital appreciation.

Pursuant to tax regulations, the Fund may invest no more than 25% of its total assets in the securities of MLPs and other entities treated as qualified publicly traded partnerships.

In addition, the Fund may invest in preferred equity, and convertible securities.

Under normal circumstances, the Fund may invest up to: (i) 30% of its total assets in securities denominated in the currency of a non-North American country, which may include securities issued by energy companies organized and/or having securities traded on an exchange outside North America and/or securities of other non-North American companies that are denominated in the currency of a non-North American country; (ii) 20% of its total assets in debt securities of any issuer, including securities which may be rated below investment grade ("junk bonds") by a nationally recognized statistical rating organization ("NRSRO") or judged by Tortoise Capital Advisors, L.L.C., also doing business as TCA Advisors ("TCA Advisors" or the "Adviser"), to be of comparable credit quality; (iii) 15% of its net assets in illiquid investments; and (iv) 10% of its total assets in securities of any issuer. The Fund may invest in initial public offerings ("IPOs"). The Fund may invest in other investment companies to the extent permitted by the 1940 Act. The Fund may invest in permissible securities without regard to the market capitalization of the issuer of such security. The Fund will not have any duration or weighted average maturity restrictions.

Except for investments in illiquid investments, the above investment restrictions apply at the time of purchase, and the Fund will not be required to reduce a position due solely to market value fluctuations in order to comply with these restrictions. To the extent that market value fluctuations cause illiquid investments held by the Fund to exceed 15% of its net assets, the Fund will determine how to remediate the excess illiquid investments in accordance with the 1940 Act and the Fund's policies and procedures.

Tortoise Capital Advisors, L.L.C. also doing business as TCA Advisors, ("TCA Advisors" or the "Adviser") seeks to invest the Fund in securities that offer a combination of yield, growth and quality, intended to result in attractive long-term total returns. The Adviser's securities selection process includes a comparison of quantitative, qualitative and relative value factors. Primary emphasis will be placed on proprietary models constructed and maintained by the Adviser's in-house investment team, although the Adviser may use research provided by broker-dealers and investment firms. To determine whether a company meets its criteria, the Adviser will generally look for long-lived energy infrastructure companies with essential assets with long economic lives (generally 20 years or more), high barriers to entry, total return potential, predictable revenue and stable operating structures, and experienced, operations-focused management teams.

Principal Risks

Risk is inherent in all investing, and you could lose money by investing in the Fund. A summary description of certain principal risks of investing in the Fund is set forth below. Before you decide whether to invest in the Fund, carefully consider these risk factors associated with investing in the Fund, which may cause investors to lose money. There can be no assurance that the Fund will achieve its investment objective. An investment in the Fund is not a bank deposit and is not insured or guaranteed by the Federal Deposit Insurance Corporation ("FDIC") or any government agency.

General Market Risk. The Fund is subject to all of the business risks and uncertainties associated with any mutual fund, including the risk that it will not achieve its investment objective and that

the value of an investment in its securities could decline substantially and cause you to lose some or all of your investment. The Fund's net asset value ("NAV") and investment return will fluctuate based upon changes in the value of its portfolio securities. Certain securities in the Fund's portfolio may be worth less than the price originally paid for them, or less than they were worth at an earlier time.

Adviser Risk. The Fund may not meet its investment objective or may underperform the market or other mutual funds with similar strategies if the Adviser cannot successfully implement the Fund's investment strategies.

Concentration Risk. The Fund's investment strategy means that the performance of the Fund will be closely tied to the performance of the energy infrastructure industry. The Fund's focus in this industry presents more risk than if it were broadly diversified over numerous industries and sectors of the economy. An inherent risk associated with any investment focus is that the Fund may be adversely affected if one or two of its investments perform poorly.

Non-Diversified Fund Risk. Because the Fund is "non-diversified" and may invest a greater percentage of its assets in the securities of a single issuer, a decline in the value of an investment in a single issuer could cause the Fund's overall value to decline to a greater degree than if the Fund held a more diversified portfolio.

Equity Securities Risk. Equity securities are susceptible to general stock market fluctuations and to volatile increases and decreases in value. The equity securities held by the Fund may experience sudden, unpredictable drops in value or long periods of decline in value. This may occur because of factors that affect securities markets generally or factors affecting specific industries, sectors, geographic markets, the equity securities of energy infrastructure companies in particular, or a particular company in which the Fund invests.

Foreign Securities Risk. Investments in securities of foreign companies involve risks not ordinarily associated with investments in securities and instruments of U.S. issuers, including risks relating to political, social and economic developments abroad, differences between U.S. and foreign regulatory and accounting requirements, tax risks, and market practices, as well as fluctuations in foreign currencies.

Currency Risk. When the Fund buys or sells securities on a foreign stock exchange, the transaction is undertaken in the local currency rather than in U.S. dollars, which carries the risk that the value of the foreign currency will increase or decrease, which may impact the value of the Fund's portfolio holdings and your investment. Foreign countries may adopt economic policies and/or currency exchange controls that affect its currency valuations in a disadvantageous manner for U.S. investors and companies and restrict or prohibit the Fund's ability to repatriate both investment capital and income, which could place the Fund's assets in such country at risk of total loss.

MLP Risk. MLPs are subject to many risks, including those that differ from the risks involved in an investment in the common stock of a corporation. Holders of MLP units have limited control and voting rights on matters affecting the partnership and are exposed to a remote possibility of liability for all of the obligations of that MLP. Holders of MLP units are also exposed to the risk that they will be required to repay amounts to the MLP that are wrongfully distributed to them. In addition, the value of the Fund's investment in an MLP will depend largely on the MLP's treatment as a partnership for U.S. federal income tax purposes. Furthermore, MLP interests may not be as liquid as other more commonly traded equity securities.

MLP Affiliate Risk. The performance of securities issued by MLP affiliates, including common shares of corporations that own general partner interests, primarily depends on the performance of an MLP. The risks and uncertainties that affect the MLP, its operational results, financial condition, cash flows and distributions also affect the value of securities held by that MLP's affiliate.

Capital Markets Risk. MLPs normally pay out the majority of their operating cash flows to partners. Therefore, MLPs and other issuers in which the Fund invests may rely significantly on capital markets for access to equity and debt financing in order to fund organic growth projects and acquisitions. Should market conditions limit issuers' access to capital markets, their distribution growth prospects could be at risk.

Debt Securities Risk. Investments in fixed income securities will be subject to credit risk, interest rate risk and prepayment risk. Credit risk is the risk that an issuer will default or fail to pay principal and interest when due. Interest rate risk is the risk that the value of fixed income securities fluctuates with changes in interest rates (e.g., increases in interest rates result in a decrease in value of fixed income securities). The Fund will be exposed to heightened interest rate risk as interest rates rise from historically low levels. Pre-payment risk is the risk that the principal on fixed income securities will be paid off prior to maturity causing the Fund to invest in fixed income securities with lower interest rates. Duration risk is the risk that holding long duration and long maturity investments will magnify certain other risks, including interest rate risk and credit risk.

Below Investment Grade Debt Securities Risk. Investments in below investment grade debt securities and unrated securities of similar credit quality as determined by the Adviser (commonly known as "junk bonds") involve a greater risk of default and are subject to greater levels of credit and liquidity risk. Below investment grade debt securities have speculative characteristics and their value may be subject to greater fluctuation than investment grade debt securities.

Large Cap Company Risk. The Fund's investments in larger, more established companies are subject to the risk that larger companies are sometimes unable to attain the high growth rates of successful, smaller companies, especially during extended periods of economic expansion. Larger, more established companies may be unable to respond quickly to new competitive challenges such as changes in consumer tastes or innovative smaller competitors potentially resulting in lower markets for their common stock.

Mid Cap and Small Cap Companies Risk. The mid cap and small cap companies may not have the management experience, financial resources, product or business diversification and competitive strengths of large cap companies. Therefore, these securities may have more price volatility and be less liquid than the securities of larger, more established companies.

Investment Company and RIC Compliance Risk. The Fund may be subject to increased expenses and reduced performance as a result of its investments in other investment companies and MLPs. When investing in other investment companies, the Fund bears its pro rata share of the other investment company's fees and expenses including the duplication of advisory and other fees and expenses. The Fund's investment in MLPs presents unusual challenges in qualifying each year as a "regulated investment company" (a "RIC") under the Code, a designation which allows the Fund to avoid paying taxes at regular corporate rates on its income. If for any taxable year the Fund fails to qualify as a RIC, the Fund's taxable income will be subject to federal income tax at regular corporate rates. The resulting increase to the Fund's expenses will reduce its performance and its income available for distribution to shareholders.

IPO Risk. The market value of IPO shares will fluctuate considerably due to factors such as the absence of a prior public market, unseasoned trading, the small number of shares available for trading and limited information about the issuer. The purchase of IPO shares may involve high transaction costs. IPO shares are subject to market risk and liquidity risk.

Cybersecurity Risk. Investment advisers, including the Adviser, must rely in part on digital and network technologies (collectively “cyber networks”) to conduct their businesses. Such cyber networks might in some circumstances be at risk of cyber-attacks that could potentially seek unauthorized access to digital systems for purposes such as misappropriating sensitive information, corrupting data, or causing operational disruption.

Illiquid Investments Risk. The Fund may be exposed to liquidity risk when trading volume, lack of a market maker, or legal restrictions impair the Fund’s ability to sell particular securities at an advantageous price or in a timely manner. Illiquid investments may include restricted securities that cannot be sold immediately because of statutory and contractual restrictions on resale.

Energy Infrastructure Industry Risk. Companies in the energy infrastructure industry are subject to many risks that can negatively impact the revenues and viability of companies in this industry, including, but not limited to risks associated with companies owning and/or operating pipelines, gathering and processing assets, power infrastructure, propane assets, as well as capital markets, terrorism, natural disasters, climate change, operating, regulatory, environmental, supply and demand, and price volatility risks.

Energy Industry Risk. Companies in the energy industry are subject to many business, economic, environmental, and regulatory risks that can adversely affect the costs, revenues, profits, and viability of companies in the industry. These risks include, but are not limited to, the following: volatility in commodity prices and changes in supply and demand, which may affect the volume of energy commodities transported, processed, stored and or distributed; specific risks associated with companies owning and/or operating pipelines, gathering and processing energy assets; operating risks including outages, structural and maintenance, impairment and safety problems; changes in the regulatory environment at federal, state and local levels, and in foreign markets; environmental regulation and liability risk; terrorism risk; extreme weather and other natural disasters; and capital markets risk, resulting in a higher capital costs or impacting growth and access to capital.

Convertible Securities Risk. Convertible securities are hybrid securities that have characteristics of both bonds and common stocks and are therefore subject to both debt security risks and equity risk. Convertible securities are subject to equity risk especially when their conversion value is greater than the interest and principal value of the bond. The prices of equity securities may rise or fall because of economic or political changes and may decline over short or extended periods of time.

Preferred Stock Risk. A preferred stock is a blend of the characteristics of a bond and common stock. It may offer a higher yield than common stock and has priority over common stock in equity ownership, but it does not have the seniority of a bond and, unlike common stock, its participation in the issuer’s growth may be limited. Although the dividend on a preferred stock may be set at a fixed annual rate, in some circumstances it may be changed or passed by the issuer. Preferred stock generally does not confer voting rights.

Tax Risk. The Fund has elected to be, and intends to qualify each year for treatment as, a “regulated investment company” under the U.S. Internal Revenue Code of 1986, as amended (the “Code”). To maintain qualification for federal income tax purposes as a regulated investment company under the Code, the Fund must meet certain source-of-income, asset diversification and annual distribution requirements, as discussed in detail below under “Tax Consequences.”

Depreciation or other cost recovery deductions passed through to the Fund from investments in MLPs in a given year will generally reduce the Fund’s taxable income, but those deductions may be recaptured in the Fund’s income in one or more subsequent years. When recognized and distributed, recapture income will generally be taxable to shareholders at the time of the distribution at ordinary income tax rates, even though those shareholders might not have held shares in the Fund at the time the deductions were taken by the Fund, and even though those shareholders will not have corresponding economic gain on their shares at the time of the recapture. In order to distribute recapture income or to fund redemption requests, the Fund may need to liquidate investments, which may lead to additional recapture income.

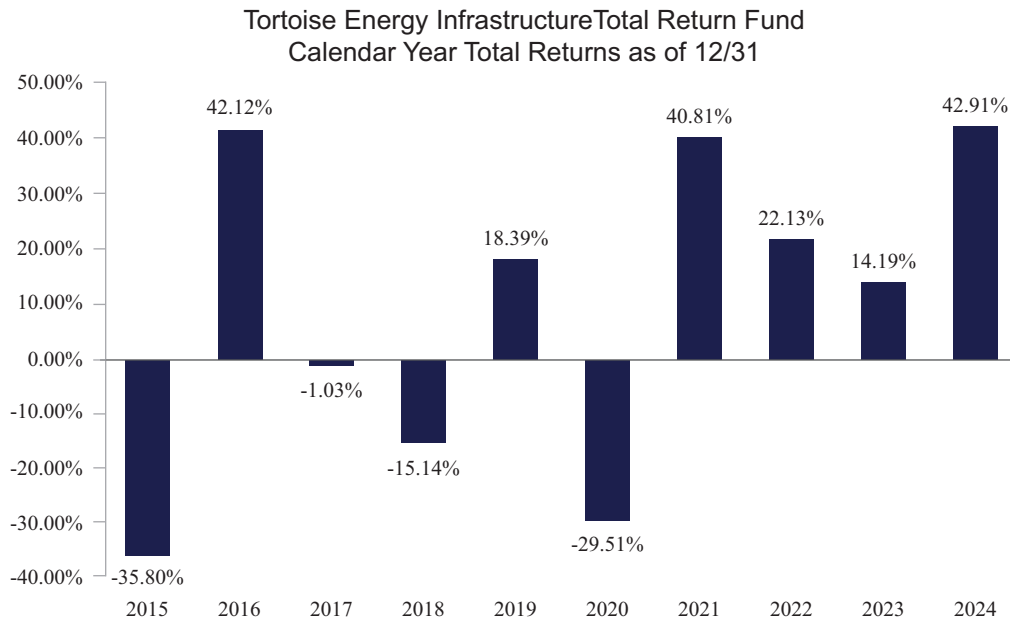
Performance History

On April 28, 2025, the shareholders of Tortoise Energy Infrastructure Total Return Fund, a series of Managed Portfolio Series, a Delaware statutory trust that is registered as an open-end management investment company (the “Predecessor Fund”), approved an Agreement and Plan of Reorganization (the “Plan”) by and between Managed Portfolio Series, on behalf of the Predecessor Fund, and Tortoise Capital Series Trust (the “Trust”), on behalf of the Fund, pursuant to which the Predecessor Fund would be reorganized through an asset and liabilities acquisition into the Fund (the “Reorganization”). The Reorganization was completed on May 9, 2025. As a result of the Reorganization, the Fund has assumed the performance history of the Predecessor Fund.

The accompanying bar chart and table provide some indication of the risks of investing in the Predecessor Fund. The bar chart shows the changes in the Predecessor Fund’s annual total returns from year to year. Following the bar chart is the Predecessor Fund’s highest and lowest quarterly returns during the periods shown in the bar chart. The table illustrates how the Predecessor Fund’s average annual returns for the 1-year, 5-year, 10-year and since-inception periods compare with those of a broad measure of market performance. Fund returns shown in the performance table reflect the maximum sales charge of 5.50% for the Fund’s A Class and the contingent deferred sales charge of 1.00% during the one-year period for the C Class. Past performance (before and after taxes) will not necessarily continue in the future. The Fund adopted the financial statements and the performance history of the Predecessor Fund.

Updated information on the Fund’s results can be obtained by visiting www.tortoisecapital.com or by calling toll-free at (844) 874-6339.

Predecessor Fund Calendar Year Total Returns as of 12/31⁽¹⁾



(1) Predecessor Fund's calendar year-to-date total return based on net asset value for the period January 1, 2025 to March 31, 2025 was 6.98%.

During the periods shown in the chart above:

Best Quarter		Worst Quarter	
Quarter Ended		Quarter Ended	
June 30, 2020	29.35%	March 31, 2020	-49.32%

Average Annual Total Returns for the Periods Ended December 31, 2024⁽¹⁾

	1 Year	5 Years	10 years
Predecessor Fund Performance			
Institutional Class			
Return Before Taxes (no load based on NAV)	34.61%	13.03%	8.38%
Return After Taxes on Distributions	42.26%	14.02%	5.47%
Return After Taxes on Distributions and Sale of Fund Shares	25.69%	11.51%	4.59%
A Class (with load)			
Return Before Taxes (based on NAV)	42.48%	14.31%	5.72%
C Class ⁽²⁾ (with load synthetic)			
Return Before Taxes (based on NAV)	40.54%	13.48%	4.97%
Index Performance			
S&P 500® Index (reflects no deduction for fees, expenses or taxes)	25.02%	14.53%	13.10%
Alerian Midstream Energy Select Index (reflects no deduction for fees, expenses or taxes) ⁽³⁾	43.13%	16.31%	6.90%
Tortoise North American Pipeline Index SM (reflects no deduction for fees, expenses or taxes) ⁽⁴⁾	38.46%	14.17%	7.73%

(1) No returns are shown for T Class Shares since T Class Shares are not currently available for purchase. Average annual total returns for T Class Shares would have been substantially similar to those for other classes offered by the Fund because each class of shares would be invested in the same portfolio of securities, and the annual returns would differ only to the extent that the classes have different expenses.

- (2) The Fund offers multiple classes of shares. The Institutional and A Class commenced operations on May 31, 2011 and C Class commenced operations on September 19, 2012. Performance shown prior to inception of the C Class is based on the performance of the Institutional Class, adjusted for the higher expenses applicable to C Class.
- (3) The Alerian Midstream Energy Select Index is a composite of North American energy infrastructure companies engaged in midstream energy activities.
- (4) The Tortoise North American Pipeline IndexSM is a float-adjusted, capitalization weighted index of pipeline companies headquartered in the United States and Canada.

After-tax returns in the above table are calculated using the historical highest individual federal marginal income tax rates and do not reflect the impact of state and local taxes. Actual after-tax returns depend on an investor's tax situation and may differ from those shown, and after-tax returns shown are not relevant to investors who hold Shares through tax-advantaged arrangements, such as 401(k) plans or individual retirement accounts.

Investment Adviser

Tortoise Capital Advisors, L.L.C. (the "Adviser")

Portfolio Managers

The Fund is managed by the Adviser's investment committee. The individual members of the investment committee jointly and primarily responsible for the day-to-day management of the Fund's portfolio are Brian A. Kessens, James R. Mick, Matthew G.P. Sallee, and Robert J. Thummel, Jr., all of whom share responsibility for such investment management and have each served as portfolio manager for the Fund since its inception in 2025. Messrs. Kessens, Mick, Sallee, and Thummel were each portfolio managers for the Predecessor Fund from 2013 through the Reorganization.

Purchase and Sale of Shares

You may purchase, exchange, or redeem Fund shares on any day that the New York Stock Exchange ("NYSE") is open for business by written request via mail (Tortoise Energy Infrastructure Total Return Fund, c/o U.S. Bank Global Fund Services, P.O. Box 701, Milwaukee, WI 53201-0701), by contacting the Fund by telephone at 855-TCA-FUND (855-822-3863) or through a financial intermediary. You may also purchase or redeem Fund shares by wire transfer. The minimum initial and subsequent investment amounts are shown below. The Adviser may reduce or waive the minimums in its sole discretion.

	A Class	Institutional Class	C Class	T Class
Minimum Initial Investment	\$2,500	\$1,000,000	\$2,500	\$2,500
Subsequent Minimum Investment	\$100	\$100	\$100	\$100

Tax Information

Distributions made by the Fund may be taxable as ordinary income, or capital gains, unless you are a tax-exempt organization or are investing through a tax-advantaged arrangement, such as a 401(k) plan or individual retirement account. Any withdrawals made from such tax-advantaged arrangement generally will be taxable to you as ordinary income.

Payments to Broker-Dealers and Other Financial Intermediaries

If you purchase the Fund through a broker-dealer or other financial intermediary (such as a bank), the Fund and its related companies may pay the intermediary for the sale of Fund shares and related services. These payments may create a conflict of interest by influencing the broker-dealer or other intermediary and your salesperson to recommend the Fund over another investment. Ask your salesperson or visit your financial intermediary's Web site for more information.