

# Putnam VT Sustainable Future Fund

## The fund's portfolio

9/30/23 (Unaudited)

### COMMON STOCKS (97.8%)(a)

	Shares	Value
<b>Biotechnology (5.7%)</b>		
Ascendis Pharma A/S ADR (Denmark) <sup>(NON)</sup>	1,810	\$169,488
Compass Pathways PLC ADR (United Kingdom) <sup>(NON)</sup>	11,901	88,067
Exact Sciences Corp. <sup>(NON)</sup>	5,908	403,044
Regeneron Pharmaceuticals, Inc. <sup>(NON)</sup>	568	467,441
Rocket Pharmaceuticals, Inc. <sup>(NON)</sup>	9,041	185,250
Sarepta Therapeutics, Inc. <sup>(NON)</sup>	990	120,008
Twist Bioscience Corp. <sup>(NON)</sup>	5,255	106,466
		<b>1,539,764</b>
<b>Capital markets (2.0%)</b>		
MSCI, Inc.	1,036	531,551
		<b>531,551</b>
<b>Chemicals (1.5%)</b>		
Ginkgo Bioworks Holdings, Inc. <sup>(NON)</sup>	42,063	76,134
Ginkgo Bioworks Holdings, Inc. <sup>(NON)</sup>	12,470	22,571
Novozymes A/S Class B (Denmark)	7,411	298,762
		<b>397,467</b>
<b>Commercial services and supplies (5.1%)</b>		
Casella Waste Systems, Inc. Class A <sup>(NON)</sup>	7,135	544,401
Cintas Corp.	1,715	824,932
		<b>1,369,333</b>
<b>Construction and engineering (1.5%)</b>		
Quanta Services, Inc.	2,156	403,323
		<b>403,323</b>
<b>Consumer staples distribution and retail (2.7%)</b>		
Sprouts Farmers Market, Inc. <sup>(NON)</sup>	17,180	735,304
		<b>735,304</b>
<b>Diversified telecommunication services (1.6%)</b>		

Liberty Global PLC Class A (United Kingdom) <sup>(NON)</sup>	25,005	428,086
		<b>428,086</b>
<b>Electric utilities (1.9%)</b>		
Constellation Energy Corp.	4,696	512,240
		<b>512,240</b>
<b>Electrical equipment (1.3%)</b>		
Regal Rexnord Corp.	2,399	342,769
		<b>342,769</b>
<b>Electronic equipment, instruments, and components (1.4%)</b>		
Trimble, Inc. <sup>(NON)</sup>	6,793	365,871
		<b>365,871</b>
<b>Financial services (2.0%)</b>		
Mastercard, Inc. Class A	1,339	530,123
		<b>530,123</b>
<b>Food products (0.8%)</b>		
Darling Ingredients, Inc. <sup>(NON)</sup>	4,367	227,957
		<b>227,957</b>
<b>Ground transportation (1.1%)</b>		
Uber Technologies, Inc. <sup>(NON)</sup>	6,518	299,763
		<b>299,763</b>
<b>Health care equipment and supplies (7.8%)</b>		
Cooper Cos., Inc. (The)	1,340	426,133
Dexcom, Inc. <sup>(NON)</sup>	7,367	687,341
IDEXX Laboratories, Inc. <sup>(NON)</sup>	1,112	486,244
Intuitive Surgical, Inc. <sup>(NON)</sup>	692	202,265
ResMed, Inc.	2,012	297,514
		<b>2,099,497</b>
<b>Health care providers and services (1.7%)</b>		
HealthEquity, Inc. <sup>(NON)</sup>	6,378	465,913
		<b>465,913</b>
<b>Health care technology (1.3%)</b>		
Veeva Systems, Inc. Class A <sup>(NON)</sup>	1,726	351,155
		<b>351,155</b>
<b>Hotels, restaurants, and leisure (3.9%)</b>		

Chipotle Mexican Grill, Inc. <sup>(NON)</sup>	326	597,177
First Watch Restaurant Group, Inc. <sup>(NON)</sup>	11,043	190,933
Vail Resorts, Inc.	1,228	272,481
		<hr/>
		<b>1,060,591</b>
<b>Interactive media and services (2.5%)</b>		
Bumble, Inc. Class A <sup>(NON)</sup>	14,398	214,818
Pinterest, Inc. Class A <sup>(NON)</sup>	16,652	450,104
		<hr/>
		<b>664,922</b>
<b>IT Services (1.8%)</b>		
Gartner, Inc. <sup>(NON)</sup>	1,402	481,741
		<hr/>
		<b>481,741</b>
<b>Life sciences tools and services (6.8%)</b>		
Bio-Rad Laboratories, Inc. Class A <sup>(NON)</sup>	447	160,227
Danaher Corp.	1,999	495,952
ICON PLC (Ireland) <sup>(NON)</sup>	1,974	486,098
Thermo Fisher Scientific, Inc.	1,349	682,823
		<hr/>
		<b>1,825,100</b>
<b>Machinery (2.3%)</b>		
Federal Signal Corp.	10,324	616,653
		<hr/>
		<b>616,653</b>
<b>Mortgage real estate investment trusts (REITs) (1.0%)</b>		
Hannon Armstrong Sustainable Infrastructure Capital, Inc. <sup>(R)</sup>	12,263	259,976
		<hr/>
		<b>259,976</b>
<b>Pharmaceuticals (1.7%)</b>		
Zoetis, Inc.	2,571	447,303
		<hr/>
		<b>447,303</b>
<b>Professional services (4.3%)</b>		
Bureau Veritas SA (France)	7,029	174,119
Ceridian HCM Holding, Inc. <sup>(NON)</sup>	4,121	279,610
Planet Labs PBC <sup>(NON)</sup>	74,898	194,735
Verra Mobility Corp. <sup>(NON)</sup>	26,926	503,516
		<hr/>
		<b>1,151,980</b>
<b>Semiconductors and semiconductor equipment (6.4%)</b>		
Applied Materials, Inc.	3,245	449,270
ASML Holding NV (NY Reg Shares) (Netherlands)	690	406,175
First Solar, Inc. <sup>(NON)</sup>	1,512	244,324

NVIDIA Corp.	1,396	607,246
		<b>1,707,015</b>
<b>Software (19.1%)</b>		
Adobe, Inc. <i>(NON)</i>	1,394	710,800
Altair Engineering, Inc. Class A <i>(NON)</i>	3,087	193,123
Atlassian Corp. Class A <i>(NON)</i>	1,514	305,086
Cadence Design Systems, Inc. <i>(NON)</i>	2,725	638,468
CrowdStrike Holdings, Inc. Class A <i>(NON)</i>	2,593	434,016
Dynatrace, Inc. <i>(NON)</i>	7,602	355,241
Fair Isaac Corp. <i>(NON)</i>	418	363,046
HubSpot, Inc. <i>(NON)</i>	259	127,558
Palo Alto Networks, Inc. <i>(NON)</i>	1,949	456,924
Roper Technologies, Inc.	1,325	641,671
ServiceNow, Inc. <i>(NON)</i>	926	517,597
Synopsys, Inc. <i>(NON)</i>	422	193,685
Zscaler, Inc. <i>(NON)</i>	1,144	177,995
		<b>5,115,210</b>
<b>Specialized REITs (0.8%)</b>		
Weyerhaeuser Co. <i>(R)</i>	7,202	220,813
		<b>220,813</b>
<b>Specialty retail (1.2%)</b>		
Ulta Beauty, Inc. <i>(NON)</i>	830	331,544
		<b>331,544</b>
<b>Textiles, apparel, and luxury goods (3.8%)</b>		
Levi Strauss & Co. Class A	29,068	394,743
Lululemon Athletica, Inc. (Canada) <i>(NON)</i>	1,265	487,797
On Holding AG Class A (Switzerland) <i>(NON)</i>	4,689	130,448
		<b>1,012,988</b>
<b>Trading companies and distributors (2.8%)</b>		
Core & Main, Inc. Class A <i>(NON)</i>	14,445	416,738
United Rentals, Inc.	758	336,984
		<b>753,722</b>
<b>Total common stocks (cost \$22,252,884)</b>		<b>\$26,249,674</b>

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**SHORT-TERM INVESTMENTS (2.2%)<sup>(a)</sup>**

	Shares	Value
Putnam Short Term Investment Fund Class P 5.57% <sup>(AFF)</sup>	597,185	\$597,185
<b>Total short-term investments (cost \$597,185)</b>		<b>\$597,185</b>

**TOTAL INVESTMENTS**

<b>Total investments (cost \$22,850,069)</b>	<b>\$26,846,859</b>
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**FORWARD CURRENCY CONTRACTS at 9/30/23 (aggregate face value \$3,169,590) (Unaudited)**

Counterparty	Currency	Contract type*	Delivery date	Value	Aggregate face value	Unrealized appreciation/ (depreciation)
<b>Bank of America N.A.</b>						
	Danish Krone	Sell	12/20/23	\$84,768	\$86,236	\$1,468
	Euro	Sell	12/20/23	380,944	387,458	6,514
<b>Barclays Bank PLC</b>						
	British Pound	Sell	12/20/23	164,925	168,314	3,389
	Euro	Sell	12/20/23	148,133	150,688	2,555
<b>Citibank, N.A.</b>						
	Israeli Shekel	Sell	10/18/23	108,355	112,111	3,756
<b>Goldman Sachs International</b>						
	Israeli Shekel	Buy	10/18/23	150,436	157,526	(7,090)
	Swedish Krona	Buy	12/20/23	70,219	69,196	1,023
<b>HSBC Bank USA, National Association</b>						
	British Pound	Sell	12/20/23	167,123	170,553	3,430
	Canadian Dollar	Sell	10/18/23	57,144	58,541	1,397
	Danish Krone	Sell	12/20/23	146,496	149,015	2,519
	Euro	Sell	12/20/23	309,212	313,660	4,448
	Israeli Shekel	Sell	10/18/23	41,951	43,441	1,490
	Swedish Krona	Buy	12/20/23	77,579	76,425	1,154
<b>Morgan Stanley &amp; Co. International PLC</b>						
	British Pound	Sell	12/20/23	155,892	159,421	3,529
	Canadian Dollar	Sell	10/18/23	261,715	268,118	6,403
	Danish Krone	Sell	12/20/23	148,746	151,317	2,571
	Euro	Sell	12/20/23	207,662	211,421	3,759

Israeli Shekel	Sell	10/18/23	131	136	5
Swiss Franc	Sell	12/20/23	135,001	139,197	4,196
<b>NatWest Markets PLC</b>					
Danish Krone	Sell	12/20/23	86,320	87,810	1,490
Swedish Krona	Buy	12/20/23	63,438	62,505	933
<b>State Street Bank and Trust Co.</b>					
Canadian Dollar	Sell	10/18/23	53,241	54,550	1,309
Euro	Sell	12/20/23	955	971	16
<b>UBS AG</b>					
Euro	Buy	12/20/23	90,832	90,980	(148)
<b>Unrealized appreciation</b>					<b>57,354</b>
<b>Unrealized (depreciation)</b>					<b>(7,238)</b>
<b>Total</b>					<b>\$50,116</b>

\* The exchange currency for all contracts listed is the United States Dollar.

### **Key to holding's abbreviations**

ADR American Depository Receipts: Represents ownership of foreign securities on deposit with a custodian bank.

### **Notes to the fund's portfolio**

Unless noted otherwise, the notes to the fund's portfolio are for the close of the fund's reporting period, which ran from January 1, 2023 through September 30, 2023 (the reporting period). Within the following notes to the portfolio, references to "Putnam Management" represent Putnam Investment Management, LLC, the fund's manager, an indirect wholly-owned subsidiary of Putnam Investments, LLC, references to "ASC 820" represent Accounting Standards Codification 820 *Fair Value Measurements and Disclosures* and references to "OTC", if any, represent over-the-counter.

(a) Percentages indicated are based on net assets of \$26,844,603.

(NON) This security is non-income-producing.

(AFF) Affiliated company. For investments in Putnam Short Term Investment Fund, the rate quoted in the security description is the annualized 7-day yield of the fund at the close of the reporting period. Transactions during the period with any company which is under common ownership or control were as follows:

Name of affiliate	Fair value as of 12/31/22	Purchase cost	Sale proceeds	Investment income	Shares outstanding and fair value as of 9/30/23
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### Short-term investments

Putnam Short Term Investment Fund*	\$726,550	\$4,764,764	\$4,894,129	\$36,003	\$597,185
<b>Total Short-term investments</b>	<b>\$726,550</b>	<b>\$4,764,764</b>	<b>\$4,894,129</b>	<b>\$36,003</b>	<b>\$597,185</b>

\* Management fees charged to Putnam Short Term Investment Fund have been waived by Putnam Management. There were no realized or unrealized gains or losses during the period.

### (R) Real Estate Investment Trust.

**Security valuation:** Portfolio securities and other investments are valued using policies and procedures adopted by the Board of Trustees. The Trustees have formed a Pricing Committee to oversee the implementation of these procedures and have delegated responsibility for valuing the fund's assets in accordance with these procedures to Putnam Management. Putnam Management has established an internal Valuation Committee that is responsible for making fair value determinations, evaluating the effectiveness of the pricing policies of the fund and reporting to the Pricing Committee.

Investments for which market quotations are readily available are valued at the last reported sales price on their principal exchange, or official closing price for certain markets, and are classified as Level 1 securities under ASC 820. If no sales are reported, as in the case of some securities that are traded OTC, a security is valued at its last reported bid price and is generally categorized as a Level 2 security.

Investments in open-end investment companies (excluding exchange-traded funds), if any, which can be classified as Level 1 or Level 2 securities, are valued based on their net asset value. The net asset value of such investment companies equals the total value of their assets less their liabilities and divided by the number of their outstanding shares.

Many securities markets and exchanges outside the U.S. close prior to the scheduled close of the New York Stock Exchange and therefore the closing prices for securities in such markets or on such exchanges may not fully reflect events that occur after such close but before the scheduled close of the New York Stock Exchange. Accordingly, on certain days, the fund will fair value certain foreign equity securities taking into account multiple factors including movements in the U.S. securities markets, currency valuations and comparisons to the valuation of American Depositary Receipts, exchange-traded funds and futures contracts. The foreign equity securities, which would generally be classified as Level 1 securities, will be transferred to Level 2 of the fair value hierarchy when they are valued at fair value. The number of days on which fair value prices will be used will depend on market activity and it is possible that fair value prices will be used by the fund to a significant extent. At the close of the reporting period, fair value pricing was used for certain foreign securities in the portfolio. Securities quoted in foreign currencies, if any, are translated into U.S. dollars at the current exchange rate. Short-term securities with remaining maturities of 60 days or less are valued using an independent pricing service approved by the Trustees, and are classified as Level 2 securities.

To the extent a pricing service or dealer is unable to value a security or provides a valuation that Putnam Management does not believe accurately reflects the security's fair value, the security will be valued at fair value by Putnam Management, which has been designated as valuation designee pursuant to Rule 2a-5 under the Investment Company Act of 1940, in accordance with policies and procedures approved by the Trustees. Certain investments, including certain restricted and illiquid securities and derivatives, are also valued at fair value following procedures approved by the Trustees. These valuations consider such factors as significant market or specific security events such as interest rate or credit quality changes, various relationships with other securities, discount rates, U.S. Treasury, U.S. swap and credit yields, index levels, convexity exposures, recovery rates, sales and other multiples and resale restrictions. These securities are classified as Level 2 or as Level 3 depending on the priority of the significant inputs.

To assess the continuing appropriateness of fair valuations, the Valuation Committee reviews and affirms the reasonableness of such valuations on a regular basis after considering all relevant information that is reasonably available. Such valuations and procedures are reviewed periodically by the Trustees. The fair value of securities is generally determined as the amount that the fund could reasonably expect to realize from an orderly disposition of such securities over a reasonable period of time. By its nature, a fair value price is a good faith

estimate of the value of a security in a current sale and does not reflect an actual market price, which may be different by a material amount.

**Forward currency contracts:** The fund buys and sells forward currency contracts, which are agreements between two parties to buy and sell currencies at a set price on a future date. These contracts were used to hedge foreign exchange risk.

The U.S. dollar value of forward currency contracts is determined using current forward currency exchange rates supplied by a quotation service. The fair value of the contract will fluctuate with changes in currency exchange rates. The contract is marked to market daily and the change in fair value is recorded as an unrealized gain or loss. The fund records a realized gain or loss equal to the difference between the value of the contract at the time it was opened and the value at the time it was closed when the contract matures or by delivery of the currency. The fund could be exposed to risk if the value of the currency changes unfavorably, if the counterparties to the contracts are unable to meet the terms of their contracts or if the fund is unable to enter into a closing position.

For the fund's average contract amount on forward currency contracts, see the appropriate table at the end of these footnotes.

**Master agreements:** The fund is a party to ISDA (International Swaps and Derivatives Association, Inc.) Master Agreements (Master Agreements) with certain counterparties that govern OTC derivative and foreign exchange contracts entered into from time to time. The Master Agreements may contain provisions regarding, among other things, the parties' general obligations, representations, agreements, collateral requirements, events of default and early termination. With respect to certain counterparties, in accordance with the terms of the Master Agreements, collateral posted to the fund is held in a segregated account by the fund's custodian and, with respect to those amounts which can be sold or repledged, is presented in the fund's portfolio.

Collateral pledged by the fund is segregated by the fund's custodian and identified in the fund's portfolio. Collateral can be in the form of cash or debt securities issued by the U.S. Government or related agencies or other securities as agreed to by the fund and the applicable counterparty. Collateral requirements are determined based on the fund's net position with each counterparty.

Termination events applicable to the fund may occur upon a decline in the fund's net assets below a specified threshold over a certain period of time. Termination events applicable to counterparties may occur upon a decline in the counterparty's long-term and short-term credit ratings below a specified level. In each case, upon occurrence, the other party may elect to terminate early and cause settlement of all derivative and foreign exchange contracts outstanding, including the payment of any losses and costs resulting from such early termination, as reasonably determined by the terminating party. Any decision by one or more of the fund's counterparties to elect early termination could impact the fund's future derivative activity.

At the close of the reporting period, the fund had a net liability position of \$6,215 on open derivative contracts subject to the Master Agreements. There was no collateral posted by the fund at period end for these agreements.

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ASC 820 establishes a three-level hierarchy for disclosure of fair value measurements. The valuation hierarchy is based upon the transparency of inputs to the valuation of the fund's investments. The three levels are defined as follows:

**Level 1:** Valuations based on quoted prices for identical securities in active markets.

**Level 2:** Valuations based on quoted prices in markets that are not active or for which all significant inputs are observable, either directly or indirectly.

**Level 3:** Valuations based on inputs that are unobservable and significant to the fair value measurement.

The following is a summary of the inputs used to value the fund's net assets as of the close of the reporting period:



	Valuation inputs		
Investments in securities:	Level 1	Level 2	Level 3
<b>Common stocks*:</b>			
Communication services	\$1,093,008	\$—	\$—
Consumer discretionary	2,405,123	—	—
Consumer staples	963,261	—	—
Financials	1,321,650	—	—
Health care	6,728,732	—	—
Industrials	4,763,424	174,119	—
Information technology	7,669,837	—	—
Materials	98,705	298,762	—
Real estate	220,813	—	—
Utilities	512,240	—	—
<b>Total common stocks</b>	<b>25,776,793</b>	<b>472,881</b>	<b>—</b>
Short-term investments	—	597,185	—
<b>Totals by level</b>	<b>\$25,776,793</b>	<b>\$1,070,066</b>	<b>\$—</b>

	Valuation inputs		
Other financial instruments:	Level 1	Level 2	Level 3
Forward currency contracts	\$—	\$50,116	\$—
<b>Totals by level</b>	<b>\$—</b>	<b>\$50,116</b>	<b>\$—</b>

\* Common stock classifications are presented at the sector level, which may differ from the fund's portfolio presentation.

The volume of activity for the reporting period for any derivative type that was held at the close of the period is listed below and was based on an average of the holdings of that derivative at the end of each fiscal quarter in the reporting period:

Forward currency contracts (contract amount)	\$4,000,000
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For additional information regarding the fund please see the fund's most recent annual or semiannual shareholder report filed on the Securities and Exchange Commission's Web site, [www.sec.gov](http://www.sec.gov), or visit Putnam's Individual Investor Web site at [www.putnaminvestments.com](http://www.putnaminvestments.com)