UGI INTERNATIONAL, LLC
AND SUBSIDIARIES

CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
AND
MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS
for the three and six months ended March 31, 2019 and 2018
(Unaudited)

UGI INTERNATIONAL, LLC AND SUBSIDIARIES

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UGI INTERNATIONAL, LLC AND SUBSIDIARIES

GLOSSARY OF TERMS AND ABBREVIATIONS

Terms and abbreviations used in this document are defined below:

UGI International and Related Entities

AvantiGas - AvantiGas Limited, a wholly owned subsidiary of UGI International

Company - UGI International and its consolidated subsidiaries collectively

DVEP - DVEP Investeringen B.V., a wholly owned subsidiary of UGI International

Enterprises - UGI Enterprises, LLC, a wholly owned subsidiary of UGI

Finagaz - The retail LPG distribution business of Totalgaz SAS acquired on May 29, 2015

Flaga - Flaga GmbH, a wholly owned subsidiary of UGI International

UGI - UGI Corporation

UGI France - UGI France SAS (*a Société par actions simplifiée*), a wholly owned subsidiary of UGI International

UGI International - UGI International, LLC, a wholly owned subsidiary of Enterprises

UniverGas - UniverGas Italia S.r.l, a wholly owned subsidiary of UGI International

Other Terms and Abbreviations

2018 Credit Facilities Agreement - A five-year unsecured Senior Facilities Agreement entered into by UGI International comprising a €300 million term loan facility and a €300 million revolving credit facility maturing October 2023

2018 six-month period - Six-month period ended March 31, 2018

2018 three-month period - Three-month period ended March 31, 2018

2019 six-month period - Six-month period ended March 31, 2019

2019 three-month period - Three-month period ended March 31, 2019

3.25% Senior Notes - An underwritten private placement of €350 million principal amount of senior unsecured notes due November 1, 2025, issued by UGI International

AOCI - Accumulated other comprehensive income (loss)

ASC - Accounting Standards Codification

ASC 605 - ASC 605, "Revenue Recognition"

ASC 606 - ASC 606, "Revenue from Contracts with Customers"

ASU - Accounting Standards Update

BRP - Balance Responsible Party providing electricity imbalance services in the European electricity markets

December 2017 French Finance Bills - The French Finance Bill for 2018 and the second amendment to the French Finance Bill for 2017 (also referred to as French Finance Bill)

EBITDA - Earnings before interest expense, income taxes, depreciation and amortization

FASB - Financial Accounting Standards Board

GAAP - U.S. generally accepted accounting principles

LIBOR - London Inter-bank Offered Rate

LPG - Liquefied petroleum gases

NPNS - Normal purchase and normal sale

TCJA - Tax Cuts and Jobs Act

USD - U.S. dollar

VDP - Voluntary departure plans

UGI INTERNATIONAL, LLC AND SUBSIDIARIES

CONDENSED CONSOLIDATED BALANCE SHEETS

(unaudited)

(Thousands of dollars)

	March 31, 2019	September 30, 2018	March 31, 2018
ASSETS			
Current assets:			
Cash and cash equivalents	$ 222,440	$ 237,539	$ 253,066
Restricted cash	21,859	657	—
Accounts receivable (less allowances for doubtful accounts of $10,101, $11,150 and $11,145, respectively)	518,141	371,425	621,927
Inventories	71,519	109,260	72,555
Derivative instruments	20,005	94,315	20,325
Prepaid expenses and other current assets	39,867	48,994	36,169
Total current assets	893,831	862,190	1,004,042
Property, plant and equipment:			
Gross property, plant and equipment	1,814,665	1,823,109	1,892,237
Accumulated depreciation	(727,592)	(702,739)	(689,167)
Net property, plant and equipment	1,087,073	1,120,370	1,203,070
Goodwill	944,831	963,748	1,023,155
Intangible assets, net	208,358	220,981	242,416
Derivative instruments	19,005	36,614	11,160
Deferred income taxes	521	1,463	8,203
Other assets	71,176	68,864	73,366
Total assets	$ 3,224,795	$ 3,274,230	$ 3,565,412
LIABILITIES AND EQUITY			
Current liabilities:			
Current maturities of long-term debt	$ 204	$ 287	$ 70,450
Short-term borrowings	9	1,397	3,304
Accounts payable — trade	237,753	246,492	290,644
Accounts payable — related parties	4,901	2,815	2,857
Employee compensation and benefits accrued	33,402	35,384	38,526
Derivative instruments	19,047	5,512	20,055
Customer deposits and advances	56,140	62,563	56,891
Other current liabilities	219,593	145,940	224,648
Total current liabilities	571,049	500,390	707,375
Long-term debt	739,833	748,146	792,255
Deferred income taxes	209,144	254,929	256,346
Derivative instruments	7,927	4,309	16,071
Customer tank and cylinder deposits	259,820	272,037	289,139
Other noncurrent liabilities	47,579	48,395	58,816
Total liabilities	1,835,352	1,828,206	2,120,002
Commitments and contingencies (Note 9)			
Equity:			
Member's equity	1,379,791	1,436,296	1,433,443
Noncontrolling interests	9,652	9,728	11,967
Total equity	1,389,443	1,446,024	1,445,410
Total liabilities and equity	$ 3,224,795	$ 3,274,230	$ 3,565,412

See accompanying notes to condensed consolidated financial statements.

UGI INTERNATIONAL, LLC AND SUBSIDIARIES

CONDENSED CONSOLIDATED STATEMENTS OF INCOME

(unaudited)

(Thousands of dollars)

	Three Months Ended March 31,		Six Months Ended March 31,	
	2019	2018	2019	2018
Revenues	$ 783,109	$ 909,597	$1,493,871	$1,693,776
Costs and expenses:				
Cost of sales	473,181	561,720	1,019,149	1,029,503
Operating and administrative expenses	181,275	199,340	355,715	373,064
Operating and administrative expenses - related parties	3,383	2,632	5,628	4,521
Depreciation and amortization	30,586	34,932	61,973	67,161
Other operating (income) expense, net	(306)	2,241	(2,323)	2,364
	688,119	800,865	1,440,142	1,476,613
Operating income	94,990	108,732	53,729	217,163
Income (loss) from equity investees	76	(117)	58	(314)
Loss on extinguishments of debt	—	—	(6,124)	—
Other non-operating income (expense), net	7,778	(11,166)	16,567	(16,119)
Interest expense	(6,121)	(5,222)	(11,512)	(10,836)
Income before income taxes	96,723	92,227	52,718	189,894
Income tax expense	(31,255)	(32,402)	(15,451)	(59,060)
Net income including noncontrolling interests	65,468	59,825	37,267	130,834
(Deduct net income) add net loss attributable to noncontrolling interests	(186)	1,238	(260)	1,502
Net income attributable to UGI International, LLC	$ 65,282	$ 61,063	$ 37,007	$ 132,336

See accompanying notes to condensed consolidated financial statements.

UGI INTERNATIONAL, LLC AND SUBSIDIARIES

CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(unaudited)

(Thousands of dollars)

	Three Months Ended March 31,		Six Months Ended March 31,	
	2019	2018	2019	2018
Net income including noncontrolling interests	$ 65,468	$ 59,825	$ 37,267	$ 130,834
Other comprehensive income (loss):				
Net losses on derivative instruments (net of tax of $765, $738, $662 and $935, respectively)	(568)	(1,622)	(896)	(2,007)
Reclassifications of net (gains) losses on derivative instruments (net of tax of $292, $(1,245), $225 and $(844), respectively)	(635)	2,205	(515)	1,247
Foreign currency adjustments (net of tax of $(7,737), $(140), $(4,944) and $(140), respectively)	(26,826)	35,950	(42,480)	58,387
Benefit plans (net of tax of $(39), $42, $(68) and $44, respectively)	75	(80)	130	(84)
Other comprehensive (loss) income	(27,954)	36,453	(43,761)	57,543
Comprehensive income (loss) including noncontrolling interests	37,514	96,278	(6,494)	188,377
(Deduct comprehensive income) add comprehensive loss attributable to noncontrolling interests	(186)	1,238	(260)	1,502
Comprehensive income (loss) attributable to UGI International, LLC	$ 37,328	$ 97,516	$ (6,754)	$ 189,879

See accompanying notes to condensed consolidated financial statements.

UGI INTERNATIONAL, LLC AND SUBSIDIARIES

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS

(unaudited)

(Thousands of dollars)

	Six Months Ended March 31, 2019	Six Months Ended March 31, 2018
CASH FLOWS FROM OPERATING ACTIVITIES		
Net income including noncontrolling interests	$ 37,267	$ 130,834
Adjustments to reconcile net income including noncontrolling interests to net cash provided by operating activities:		
Depreciation and amortization	61,973	67,161
Deferred income tax benefit, net	(39,657)	(9,276)
Changes in unrealized gains and losses on derivative instruments	113,194	5,671
Noncash operating and administrative expenses - related parties	5,628	4,521
Loss on extinguishments of debt	6,124	—
Other, net	(8,105)	11,665
Net change in:		
Accounts receivable	(148,041)	(277,272)
Inventories	35,109	19,224
Accounts payable	(3,062)	40,235
Other current assets	1,656	2,293
Other current liabilities	68,126	69,149
Net cash provided by operating activities	130,212	64,205
CASH FLOWS FROM INVESTING ACTIVITIES		
Expenditures for property, plant and equipment	(49,913)	(47,781)
Acquisitions of businesses, net of cash acquired	(23,495)	(106,907)
Other, net	3,270	6,276
Net cash used by investing activities	(70,138)	(148,412)
CASH FLOWS FROM FINANCING ACTIVITIES		
Decrease in short-term borrowings	(1,357)	(18,198)
Distributions paid	(53,750)	—
Issuances of long-term debt, net of issuance costs	728,928	—
Repayments of long-term debt and capital leases	(717,111)	(12,180)
Other	(3,162)	(2,648)
Net cash used by financing activities	(46,452)	(33,026)
Foreign exchange effect on cash, cash equivalents and restricted cash	(7,519)	8,925
Cash, cash equivalents and restricted cash increase (decrease)	$ 6,103	$ (108,308)
CASH, CASH EQUIVALENTS AND RESTRICTED CASH		
Cash, cash equivalents and restricted cash at end of period	$ 244,299	$ 253,066
Cash, cash equivalents and restricted cash at beginning of period	238,196	361,374
Cash, cash equivalents and restricted cash increase (decrease)	$ 6,103	$ (108,308)

See accompanying notes to condensed consolidated financial statements.

UGI INTERNATIONAL, LLC AND SUBSIDIARIES

CONDENSED CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY

(unaudited)

(Thousands of dollars)

	Member's Equity	Noncontrolling Interests	Total
Balance September 30, 2018	$ 1,436,296	$ 9,728	$ 1,446,024
Net income	37,007	260	37,267
Capital contribution - allocated expenses (Note 13)	3,999	—	3,999
Cash distributions	(53,750)	—	(53,750)
Changes in AOCI balance	(43,761)	—	(43,761)
Other	—	(336)	(336)
Balance March 31, 2019	$ 1,379,791	$ 9,652	$ 1,389,443

	Member's Equity	Noncontrolling Interests	Total
Balance September 30, 2017	$ 1,240,492	$ 13,173	$ 1,253,665
Net income (loss)	132,336	(1,502)	130,834
Capital contribution - allocated expenses (Note 13)	3,072	—	3,072
Changes in AOCI balance	57,543	—	57,543
Other	—	296	296
Balance March 31, 2018	$ 1,433,443	$ 11,967	$ 1,445,410

See accompanying notes to condensed consolidated financial statements.

(Currency in thousands, except where indicated otherwise)

Note 1 — Nature of Operations

UGI International is a limited liability company domiciled in the Commonwealth of Pennsylvania in the U.S. UGI International is a wholly owned subsidiary of Enterprises, a Pennsylvania limited liability company, and is a second-tier wholly owned subsidiary of UGI. UGI is a U.S.-based holding company that, through subsidiaries, distributes, stores, transports and markets energy products and related services principally in the U.S. and Europe.

UGI International, through its subsidiaries, conducts (1) an LPG distribution business throughout much of Europe and (2) an energy marketing business in France, Belgium, the Netherlands and the United Kingdom. These businesses are conducted principally through our subsidiaries, UGI France, Flaga, AvantiGas, DVEP and UniverGas.

Note 2 — Summary of Significant Accounting Policies

The accompanying condensed consolidated financial statements are unaudited and have been prepared in accordance with GAAP. They include all adjustments that we consider necessary for a fair statement of the results for the interim periods presented. Such adjustments consisted only of normal recurring items unless otherwise disclosed. The September 30, 2018, Condensed Consolidated Balance Sheet was derived from audited financial statements but does not include all disclosures required by GAAP.

These financial statements should be read in conjunction with the Company's audited financial statements and related notes for the year ended September 30, 2018. Due to the seasonal nature of our businesses, the results of operations for interim periods are not necessarily indicative of the results to be expected for a full year.

Revenue Recognition. Effective October 1, 2018, the Company adopted ASU No. 2014-09, “Revenue from Contracts with Customers,” which, as amended, is included in ASC 606. This new accounting guidance supersedes previous revenue recognition requirements in ASC 605. ASC 606 requires that an entity recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. We adopted this new accounting guidance using the modified retrospective transition method to those contracts which were not completed as of October 1, 2018. Periods prior to October 1, 2018, have not been restated and continue to be reported in accordance with ASC 605. Upon adoption, there were no cumulative effect adjustments made to the October 1, 2018, retained earnings. The adoption of ASC 606 did not, and is not expected to, have a material impact on the amount or timing of our revenue recognition and on our consolidated net income, cash flows or financial position.

Certain revenues such as revenue from leases, financial instruments and other revenues are not within the scope of ASC 606 because they are not from contracts with customers. Such revenues are accounted for in accordance with other GAAP. Revenue-related taxes collected on behalf of customers and remitted to taxing authorities are not included in revenues. The Company has elected to use the practical expedient to expense the costs to obtain contracts when incurred as such amounts are generally not material.

See Note 4 for additional disclosures regarding the Company’s revenue from contracts with customers.

Restricted Cash. Restricted cash principally represents those cash balances in our commodity futures brokerage accounts that are restricted from withdrawal. Upon adoption of revised accounting guidance in October 2018 (see Note 3), changes in restricted cash is no longer reflected as a separate investing activity but included within cash, cash equivalents and restricted cash when reconciling the beginning and end of period total amounts in the Company’s Condensed Consolidated Statements of Cash Flows.

The following table provides a reconciliation of the total cash, cash equivalents and restricted cash reported on the Condensed Consolidated Balance Sheets to the corresponding amounts reported on the Condensed Consolidated Statements of Cash Flows:

	Cash, Cash Equivalents and Restricted Cash			
	March 31, 2019	March 31, 2018	September 30, 2018	September 30, 2017
Cash and cash equivalents	$ 222,440	$ 253,066	$ 237,539	$ 360,574
Restricted cash	21,859	—	657	800
Cash, cash equivalents and restricted cash	$ 244,299	$ 253,066	$ 238,196	$ 361,374

Derivative Instruments. Derivative instruments are reported on the Condensed Consolidated Balance Sheets at their fair values, unless the NPNS exception is elected. The accounting for changes in fair value depends upon the purpose of the derivative instrument and whether it qualifies and is designated as a hedge for accounting purposes.

Certain of our derivative instruments qualify and are designated as cash flow hedges. For cash flow hedges, changes in the fair values of the derivative instruments are recorded in AOCI, to the extent effective at offsetting changes in the hedged item, until earnings are affected by the hedged item. We discontinue cash flow hedge accounting if occurrence of the forecasted transaction is determined to be no longer probable. Hedge accounting is also discontinued for derivatives that cease to be highly effective. We do not designate our commodity and certain foreign currency derivative instruments as hedges under GAAP. Changes in the fair values of these derivative instruments are reflected in net income. From time to time, we also enter into net investment hedges. Gains and losses on net investment hedges that relate to our foreign operations are included in the cumulative translation adjustment component of AOCI until such foreign net investment is sold or liquidated.

In order to reduce the volatility in net income associated with our foreign operations, principally as a result of changes in the U.S. dollar exchange rate between the euro and British pound sterling, we enter into forward foreign currency exchange contracts. Because these contracts do not qualify for hedge accounting treatment, realized and unrealized gains and losses on these contracts are recorded in “Other non-operating income (expense), net” on the Condensed Consolidated Statements of Income.

Cash flows from derivative instruments, other than certain cross-currency swaps and net investment hedges, if any, are included in cash flows from operating activities on the Condensed Consolidated Statements of Cash Flows. Cash flows from the interest portion of our cross-currency hedges, if any, are included in cash flows from operating activities while cash flows from the currency portion of such hedges, if any, are included in cash flows from financing activities. Cash flows from net investment hedges, if any, are included in cash flows from investing activities on the Condensed Consolidated Statements of Cash Flows.

For a more detailed description of the derivative instruments we use, our accounting for derivatives, our objectives for using them and other information, see Note 11.

Income Taxes.

U.S. Tax Reform. On December 22, 2017, the TCJA was enacted into law. Among the significant changes resulting from the law, the TCJA reduced the U.S. federal income tax rate from 35% to 21% effective January 1, 2018, and created a territorial tax system with a one-time mandatory “toll tax” on previously un-repatriated foreign earnings. We are subject to a 21% U.S. federal tax rate in Fiscal 2019. We were subject to a blended U.S. federal income tax rate of 24.5% for Fiscal 2018 because our fiscal year contained the effective date of the rate change from 35% to 21% on January 1, 2018. As a result of the enactment of the TCJA’s territorial regime, during the six months ended March 31, 2018, the Company re-established a $7,600 valuation allowance on foreign tax credits which had been previously reduced in September 2017 and recorded a $1,419 "toll tax" on unrepatriated foreign earnings.

Changes in French Corporate Income Tax Rates. In December 2017, the French Parliament approved the December 2017 French Finance Bills. One impact of the December 2017 French Finance Bills was an increase in the Fiscal 2018 corporate income tax rate in France from 34.4% to 39.4%. The December 2017 French Finance Bills also included measures to ratably reduce the corporate income tax rate to 25.8%, effective for fiscal years starting after January 1, 2022 (Fiscal 2023). We are subject to a 34.4% French corporate tax rate in Fiscal 2019. As a result of the future corporate income tax rate reduction effective in Fiscal 2023, during the three and six months ended March 31, 2018, the Company (increased) reduced its net French deferred income tax liabilities and recognized estimated deferred tax (expense) benefit of $(3,662) and $13,605, respectively. The estimated annual effective income tax rate used in determining income taxes for the three and six months ended March 31, 2018, reflected the impact of the higher Fiscal 2018 income tax rate as a result of the December 2017 French Finance Bills.

Other non-operating income (expense), net. Included in “Other non-operating income (expense), net” on the Condensed Consolidated Statements of Income are net gains and losses on forward foreign currency contracts used to reduce volatility in net income associated with our foreign operations, and non-service income (expense) associated with our pension and other postretirement plans.

Use of Estimates. The preparation of financial statements in accordance with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, expenses and costs. These estimates are based on management's knowledge of current events, historical experience and various other assumptions that are believed to be reasonable under the circumstances. Accordingly, actual results may be different from these estimates and assumptions.

Reclassifications. Certain prior-period amounts have been reclassified to conform to the current-period presentation.

Subsequent Events. Management has evaluated the impact of subsequent events through May 17, 2019, the date these condensed consolidated financial statements were issued and the effects, if any, of such evaluation have been reflected in the condensed consolidated financial statements and related disclosures.

Note 3 — Accounting Changes

New Accounting Standards Adopted Effective October 1, 2018

Revenue Recognition. Effective October 1, 2018, the Company adopted new accounting guidance regarding revenue recognition. See Notes 2 and 4 for a detailed description of the impact of the new guidance and related disclosures.

Cloud Computing Implementation Costs. In August 2018, the FASB issued ASU No. 2018-15, "Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract." The new guidance requires a customer in a cloud computing arrangement that is a service contract to capitalize certain implementation costs as if the arrangement was an internal-use software project. These deferred implementation costs are expensed over the fixed, noncancelable term of the service arrangement plus any reasonably certain renewal periods. The new guidance also requires the entity to present the expense related to the capitalized implementation costs in the same income statement line as the hosting service fees; to classify payments for capitalized implementation costs in the statement of cash flows in the same manner as payments for hosting service fees; and to present the capitalized implementation costs in the balance sheet in the same line item in which prepaid hosting service fees are presented. The new guidance can be applied either retrospectively or prospectively to all implementation costs incurred after the date of adoption. We adopted this ASU effective October 1, 2018, and applied the guidance prospectively to all implementation costs associated with cloud computing arrangements that are service contracts incurred beginning October 1, 2018. The adoption of the new guidance did not have a material impact on our results of operations for the three and six months ended March 31, 2019.

Pension and Other Postretirement Benefit Costs. In March 2017, the FASB issued ASU No. 2017-07, "Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost." This ASU requires entities to disaggregate the service cost component from the other components of net periodic benefit cost and present it with compensation costs for related employees in the income statement. The other components are required to be presented elsewhere in the income statement and outside of income from operations. The amendments in this ASU permit only the service cost component to be eligible for capitalization, when applicable.

The guidance became effective for the Company beginning October 1, 2018, with retrospective adoption for the presentation of pension and postretirement expense on the income statement and a prospective adoption for capitalization. The Company's Condensed Consolidated Statements of Income for all periods presented reflect the presentation of the non-service cost component of net periodic pension and other postretirement benefit cost within "Other non-operating income (expense), net."

For the three and six months ended March 31, 2019 and 2018, the amount of income (expense) comprising the non-service cost components of our pension and postretirement benefit plans, net of amounts capitalized, presented in "Other non-operating income (expense), net," was not material.

Statement of Cash Flows - Restricted Cash. In November 2016, the FASB issued ASU No. 2016-18, "Statement of Cash Flows: Restricted Cash." The guidance in this ASU requires that a statement of cash flows explain the change during the period in the total of cash, cash equivalents, as well as restricted cash or restricted cash equivalents. As a result, amounts generally described as restricted cash and restricted cash equivalents are included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts on the statement of cash flows. The amendments in the ASU are required to be adopted on a retrospective basis. We adopted this ASU effective October 1, 2018. Adoption of this new guidance resulted in a change in presentation of restricted cash on the Condensed Consolidated Statements of Cash Flows; otherwise, this guidance did not have a significant impact on our Condensed Consolidated Statements of Cash Flows and disclosures (see Note 2, "Restricted Cash").

Accounting Standards Not Yet Adopted

Pension and Other Postretirement Benefit Costs Disclosures. In August 2018, the FASB issued ASU No. 2018-14, "Changes to the Disclosure Requirements for Defined Benefit Plans." This ASU modifies the disclosure requirements for employers that sponsor defined benefit pension or other postretirement plans by removing and adding certain disclosures for these plans. The amendments in this ASU are effective for interim and annual periods beginning October 1, 2020 (Fiscal 2021). The guidance shall be adopted retrospectively for all periods presented in the financial statements. Early adoption is permitted. The Company is in the process of assessing the impact on its financial statement disclosures from the adoption of the new guidance and determining the period in which the new guidance will be adopted.

Fair Value Measurements Disclosures. In August 2018, the FASB issued ASU No. 2018-13, "Changes to the Disclosure Requirements for Fair Value Measurement." This ASU modifies the disclosure requirements for fair value measurements by removing, modifying, or adding certain disclosures. The amendments in this ASU are effective for annual periods beginning October 1, 2020 (Fiscal 2021). The guidance regarding removing and modifying disclosures will be adopted on a retrospective basis and the guidance regarding new disclosures will be adopted on a prospective basis. Early adoption is permitted. The Company is in the process of assessing the impact on its financial statement disclosures from the adoption of the new guidance and determining the period in which the new guidance will be adopted.

Derivatives and Hedging. In August 2017, the FASB issued ASU No. 2017-12, "Targeted Improvements to Accounting for Hedging Activities." This ASU amends and simplifies existing guidance to allow companies to more accurately present the economic effects of risk management activities in the financial statements. The amendments in this ASU are effective for the Company for interim and annual periods beginning October 1, 2019 (Fiscal 2020). Early adoption is permitted. For cash flow and net investment hedges as of the adoption date, the guidance requires a modified retrospective approach. The amended presentation and disclosure guidance is required prospectively. The Company is in the process of assessing the impact on its financial statements from the adoption of the new guidance and determining the period in which the new guidance will be adopted.

Leases. In February 2016, the FASB issued ASU No. 2016-02, "Leases." This ASU, as subsequently updated, amends existing guidance to require entities that lease assets to recognize the assets and liabilities for the rights and obligations created by those leases on the balance sheet. The new guidance also requires additional disclosures about the amount, timing and uncertainty of cash flows from leases. The amendments in this ASU are effective for the Company for interim and annual periods beginning October 1, 2019 (Fiscal 2020). Early adoption is permitted. Lessees must apply a modified retrospective transition approach for leases existing at, or entered into after, the beginning of the earliest comparative period presented in the financial statements unless an entity chooses the transition option in ASU 2018-11, "Leases: Targeted Improvements" which, among other things, provides entities with a transition option to recognize the cumulative-effect adjustment from the modified retrospective application to the opening balance of retained earnings in the period of adoption. We will adopt ASU No. 2016-02, as updated, effective October 1, 2019, and expect to elect the transition option which would allow the Company to maintain historical presentation for periods before October 1, 2019. The Company has completed a preliminary assessment for evaluating the impact of the guidance and anticipates that its adoption will result in a significant amount of right-of-use assets and lease liabilities for leases in effect at the adoption date. The Company has begun implementation activities including accumulating contracts and lease data in formats compatible with a new lease management system that will assist with the initial adoption and future reporting required by the standard.

Note 4 — Revenue from Contracts with Customers

The Company recognizes revenue when control of promised goods or services is transferred to our customers in an amount that reflects the consideration to which we expect to be entitled in exchange for those goods or services. The Company generally has the right to consideration from a customer in an amount that corresponds directly with the value to the customer for our performance completed to date. As such, we have elected to recognize revenue in the amount to which we have a right to invoice.

We do not have a significant financing component in our contracts because we receive payment shortly before, at, or shortly after the transfer of control of the good or service. Because the period between the time the performance obligation is satisfied and payment is received is one year or less, the Company has elected to apply the significant financing component practical expedient and no amount of consideration has been allocated as a financing component.

The Company's revenues from contracts with customers are discussed below.

LPG. We record revenue principally from the sale of LPG to retail and wholesale customers. The primary performance obligation associated with the sale of LPG is the delivery of LPG to (1) the customer's point of delivery for retail customers and (2) the customer's specified location where LPG is picked up by wholesale customers, at which point control of the LPG is transferred to the customer, the performance obligation is satisfied, and the associated revenue is recognized. For contracts with retail customers that consume LPG from a metered tank, we recognize revenue as LPG is consumed, at which point we have the right to invoice, and generally invoice monthly based on consumption.

Contracts with customers comprise different types of contracts with varying length terms, fixed or variable prices, and fixed or variable quantities. Contracts with our residential customers, which comprise a substantial number of our customer contracts, are generally five years or less. Customer contracts for the sale of LPG include fixed-price, fixed-quantity contracts under which LPG is provided to a customer at a fixed price and a fixed volume, and contracts that provide for the sale of LPG at either fixed prices or market prices at date of delivery with no fixed volumes.

We also distribute LPG to customers in portable cylinders. Under certain contracts, filled cylinders are delivered, and control is transferred, to a reseller. In such instances, the reseller is our customer and we record revenue upon delivery to the reseller. Under other contracts, filled cylinders are delivered to a reseller, but the Company retains control of the cylinders. In such instances, we record revenue at the time the reseller transfers control of the cylinder to the end user.

Certain retail LPG customers receive credits which we account for as variable consideration. We estimate these credits based upon past practices and historical customer experience and we reduce our revenues recognized for these credits.

Energy Marketing. The Company operates energy marketing businesses that sell energy commodities, principally natural gas and electricity, to residential, commercial, industrial and wholesale customers. In addition, DVEP provides system balancing and procurement services to other energy marketers in the Netherlands.

We market natural gas and electricity on full-requirements or agreed-upon volume bases under contracts with varying length terms and at fixed or floating prices that are based on market indices adjusted for differences in price between the market location and delivery locations. Performance obligations associated with these contracts primarily comprise the delivery of the natural gas and electricity over a contractual period of time. Performance obligations also include other energy-related ancillary services provided to customers such as capacity. For performance obligations that are satisfied at a point in time such as the delivery of natural gas, revenue is recorded when customers take control of the natural gas. Revenue is recorded for performance obligations that qualify as a series, when customers consume the natural gas or electricity delivered, which corresponds to the amount invoiced to the customer. For transactions where the price or volume is not fixed, the transaction price is not determined until delivery occurs. The billed amount, and the revenue recorded, is based upon consumption by the customer.

In addition to providing natural gas and electricity to end user customers, DVEP has contracts with third-party natural gas and electricity marketers to provide BRP services in the electricity and natural gas markets in the Netherlands. These contracts are typically multi-year agreements and include full BRP services which include, among other things, estimating, procuring and scheduling all energy requirements to meet third-party marketers' needs, or provide more limited system procurement and balancing services. The amount of revenue recognized from our BRP customers is based upon the amount of energy delivered with respect to these agreements, and the level of BRP services provided. We typically receive payments from our BRP customers one month in advance of our performing the related services. Amounts received in advance are deferred on the balance sheet as contract liabilities. Based upon an evaluation of the terms and conditions of the BRP contracts and our ability to control the goods or services provided to the third-party marketers, in addition to other factors, we are considered a principal in these contracts and are required to record the revenue associated with the sale of energy to the third-party energy marketers on a gross basis. We record the associated revenue ratably over time, typically monthly, as the performance obligations are satisfied.

Other. Other revenues from contracts with customers are generated primarily from certain fees we charge associated with the delivery of LPG. Revenues from fees are typically recorded when the LPG is delivered to the customer or the associated service is completed.

Contract Balances

The timing of revenue recognition may differ from the timing of invoicing to customers or cash receipts. Contract assets represent our right to consideration after the performance obligations have been satisfied when such right is conditioned on something other than the passage of time. Contract assets were not material at March 31, 2019. Substantially all of our receivables are unconditional rights to consideration and are included in “Accounts receivable” on the Condensed Consolidated Balance Sheets. Amounts billed are generally due within the following month.

(Currency in thousands, except where indicated otherwise)

Contract liabilities arise when payment from a customer is received before the performance obligations have been satisfied and represent the Company’s obligations to transfer goods or services to a customer for which we have received consideration. The balances of contract liabilities were $9,735 and $11,336 at March 31, 2019 and October 1, 2018, respectively, and are included in “Other current liabilities” on the Condensed Consolidated Balance Sheets. Revenue recognized for the six months ended March 31, 2019, from the amount included in contract liabilities at October 1, 2018 was $8,822.

Revenue Disaggregation

The following table presents our disaggregated revenues for the three and six months ended March 31, 2019:

	Three Months Ended March 31, 2019	Six Months Ended March 31, 2019
Revenues from contracts with customers:		
LPG:		
Retail	$ 531,062	$ 1,038,836
Wholesale	68,582	107,584
Energy Marketing	162,716	305,837
Other	12,635	25,060
Total revenues from contracts with customers	774,995	1,477,317
Other revenues (a)	8,114	16,554
Total revenues	$ 783,109	$ 1,493,871

(a) Primarily represents revenues from tank rentals that are not within the scope of ASC 606 and accounted for in accordance with other GAAP.

Remaining Performance Obligations

We have elected to use practical expedients as allowed in ASC 606 to exclude disclosures related to the aggregate amount of the transaction price allocated to the performance obligations that are unsatisfied as of the end of the reporting period because these contracts have an initial expected term of one year or less or we have a right to bill the customer in an amount that corresponds directly with the value of services provided to the customer to date.

Note 5 — Debt

On October 18, 2018, the Company entered into the 2018 Credit Facilities Agreement, a five-year unsecured Senior Facilities Agreement with a consortium of banks consisting of (1) a €300,000 variable-rate term loan which was drawn on October 25, 2018, and (2) a €300,000 senior unsecured multicurrency revolving facility agreement. The 2018 Credit Facilities Agreement matures on October 18, 2023. Term loan borrowings bear interest at rates per annum comprising the aggregate of the applicable margin and the associated euribor rate, which euribor rate has a floor of zero. The margin on term loan borrowings, which ranges from 1.55% to 3.20%, is dependent upon a ratio of net consolidated indebtedness to consolidated EBITDA, as defined in the 2018 Credit Facilities Agreement. The initial margin on term loan borrowings is 1.70%. The Company has entered into pay-fixed, receive-variable interest rate swaps through October 18, 2022, to fix the underlying euribor rate on term loan borrowings at 0.34%. Under the multicurrency revolving credit facility agreement, the Company may borrow in euros or U.S. dollars. Loans made in euros will bear interest at the associated euribor rate plus a margin ranging from 1.20% to 2.85%. Loans made in U.S. dollars will bear interest at the associated LIBOR rate plus a margin ranging from 1.45% to 3.10%. The margin on revolving facility borrowings is dependent upon a ratio of net consolidated indebtedness to consolidated EBITDA, as defined.

Restrictive covenants under the 2018 Credit Facilities Agreement include restrictions on the incurrence of additional indebtedness and also restrict liens, guarantees, investments, loans and advances, payments, mergers, consolidations, asset transfers, transactions with affiliates, sales of assets, acquisitions and other transactions. In addition, the 2018 Credit Facilities Agreement requires a ratio of net consolidated indebtedness to consolidated EBITDA, as defined, not to exceed 3.85 to 1.00.

(Currency in thousands, except where indicated otherwise)

On October 25, 2018, the Company issued, in an underwritten private placement, €350,000 principal amount of the 3.25% Senior Notes due November 1, 2025. The 3.25% Senior Notes rank equal in right of payment with indebtedness issued under the 2018 Credit Facilities Agreement.

The net proceeds from the 3.25% Senior Notes and the 2018 Credit Facilities Agreement variable-rate term loan plus cash on hand were used on October 25, 2018 (1) to repay €540,000 outstanding principal of UGI France's variable-rate term loan under its 2015 senior facilities agreement; €45,800 outstanding principal of Flaga's variable-rate term loan; and $49,914 outstanding principal of Flaga's U.S. dollar variable-rate term loan, plus accrued and unpaid interest, and (2) for general corporate purposes. Because these outstanding term loans were refinanced on a long-term basis in October 2018, we have classified €60,000 of such debt due in April 2019 as long-term debt on the September 30, 2018 Consolidated Balance Sheet. Upon entering into the 2018 Credit Facilities Agreement, we also terminated (1) the existing revolving credit facility agreement dated December 19, 2017, (2) UGI France's revolving credit facility under its 2015 senior facilities agreement and (3) Flaga's credit facility agreement. We have designated term loan borrowings under the 2018 Credit Facilities Agreement and the 3.25% Senior Notes as net investment hedges.

Note 6 — Defined Benefit Pension and Other Postretirement Plans

Certain UGI International employees are covered by defined benefit pension and other postretirement benefit plans. Benefits under defined benefit pension plans are generally based upon years of service and final average pay.

The service cost component of our pension and other postretirement plans is reflected in "Operating and administrative expenses" on the Condensed Consolidated Statements of Income. The non-service cost component are reflected in "Other non-operating income (expense), net" on the Condensed Consolidated Statements of Income. Net periodic pension and other postretirement benefit costs include the following components:

	Pension Benefits		Other Postretirement Benefits	
Three Months Ended March 31,	2019	2018	2019	2018
Service cost	$ 689	$ 715	$ —	$ 93
Interest cost	218	245	14	45
Expected return on assets	(159)	(191)	—	—
Amortization of:				
Prior service (benefit) cost	(1)	(1)	(24)	7
Actuarial loss (gain)	47	72	(2)	(4)
Net benefit cost (benefit)	$ 794	$ 840	$ (12)	$ 141

	Pension Benefits		Other Postretirement Benefits	
Six Months Ended March 31,	2019	2018	2019	2018
Service cost	$ 1,378	$ 1,401	$ —	$ 181
Interest cost	436	479	29	88
Expected return on assets	(318)	(374)	—	—
Amortization of:				
Prior service (benefit) cost	(3)	(2)	(48)	14
Actuarial loss (gain)	93	141	(3)	(7)
Net benefit cost (benefit)	$ 1,586	$ 1,645	$ (22)	$ 276

(Currency in thousands, except where indicated otherwise)

Note 7 — Inventories

Inventories comprise the following:

	March 31, 2019	September 30, 2018	March 31, 2018
LPG	$ 55,926	$ 75,536	$ 57,998
Natural gas	3,649	21,887	1,687
Other, principally materials & supplies	11,944	11,837	12,870
Total inventories	$ 71,519	$ 109,260	$ 72,555

Note 8 — Goodwill and Intangible Assets

Goodwill and intangible assets comprise the following:

	March 31, 2019	September 30, 2018	March 31, 2018
Goodwill (not subject to amortization)	$ 944,831	$ 963,748	$ 1,023,155
Intangible assets:			
Customer relationships and other	$ 301,996	$ 321,455	$ 340,444
Trademarks and tradenames	8,413	—	—
Accumulated amortization	(152,890)	(150,765)	(151,407)
Intangible assets, net (subject to amortization)	157,519	170,690	189,037
Trademarks and tradenames (not subject to amortization)	50,839	50,291	53,379
Total intangible assets, net	$ 208,358	$ 220,981	$ 242,416

The changes in goodwill and intangible assets are primarily due to acquisitions and the effects of currency translation. Amortization expense of intangible assets was $3,806 and $3,879 for the three months ended March 31, 2019 and 2018, respectively, and $7,621 and $8,185 for the six months ended March 31, 2019 and 2018, respectively. The estimated aggregate amortization expense of intangible assets for the remainder of Fiscal 2019 and for the next four fiscal years is as follows: remainder of Fiscal 2019 — $7,565; Fiscal 2020 — $15,131; Fiscal 2021 — $15,131; Fiscal 2022 — $15,051; Fiscal 2023 — $14,891.

Note 9 — Commitments and Contingencies

Contingencies

There are pending claims and legal actions arising in the normal course of our businesses. Although we cannot predict the final results of these pending claims and legal actions, we believe, after consultation with counsel, that the final outcome of these matters will not have a material effect on our financial position, results of operations or cash flows.

(Currency in thousands, except where indicated otherwise)

Note 10 — Fair Value Measurements

Derivative Financial Instruments

The following table presents on a gross basis our financial assets and liabilities including both current and noncurrent portions, that are measured at fair value on a recurring basis within the fair value hierarchy.

	Asset (Liability)			
	Level 1	Level 2	Level 3	Total
March 31, 2019				
Assets:				
Commodity contracts	$ 11,139	$ 5,681	$ —	$ 16,820
Foreign currency contracts	$ —	$ 29,762	$ —	$ 29,762
Liabilities:				
Commodity contracts	$ (434)	$ (26,048)	$ —	$ (26,482)
Foreign currency contracts	$ —	$ (4,876)	$ —	$ (4,876)
Interest rate contracts	$ —	$ (3,188)	$ —	$ (3,188)
September 30, 2018				
Assets:				
Commodity contracts	$ 69,447	$ 54,711	$ —	$ 124,158
Foreign currency contracts	$ —	$ 20,644	$ —	$ 20,644
Cross-currency contracts	$ —	$ 913	—	$ 913
Liabilities:				
Commodity contracts	$ (3,989)	$ (281)	$ —	$ (4,270)
Foreign currency contracts	$ —	$ (14,382)	$ —	$ (14,382)
Interest rate contracts	$ —	$ (1,044)	$ —	$ (1,044)
March 31, 2018				
Assets:				
Commodity contracts	$ 24,785	$ 7,492	$ —	$ 32,277
Foreign currency contracts	$ —	$ 13,946	$ —	$ 13,946
Liabilities:				
Commodity contracts	$ (1,270)	$ (1,607)	$ —	$ (2,877)
Foreign currency contracts	$ —	$ (43,512)	$ —	$ (43,512)
Interest rate contracts	$ —	$ (1,853)	$ —	$ (1,853)
Cross-currency contracts	$ —	$ (2,244)	$ —	$ (2,244)

The fair values of our Level 1 non-exchange-traded commodity futures and forward contracts are based upon actively quoted market prices for identical assets and liabilities. The remainder of our derivative instruments are designated as Level 2. The fair values of commodity derivatives designated as Level 2 are based upon indicative price quotations available through brokers, industry price publications or recent market transactions and related market indicators. The fair values of our Level 2 interest rate contracts, foreign currency contracts and cross-currency contracts are based upon third-party quotes or indicative values based on recent market transactions.

Other Financial Instruments

The carrying amounts of other financial instruments included in current assets and current liabilities (except for current maturities of long-term debt) approximate their fair values because of their short-term nature. At March 31, 2019, the carrying amount and estimated fair value of our long-term debt (including current maturities but excluding unamortized debt issuance costs) were $749,099 and $765,900, respectively. Since the majority of our long-term debt at September 30, 2018 and March 31, 2018 was variable-rate term debt indexed to market-based interest rates, the carrying amounts of such long-term debt approximated their fair values.

Financial instruments other than derivative financial instruments, such as cash equivalents, time deposits and trade accounts receivable, could expose us to concentrations of credit risk. We limit our credit risk from cash equivalents and time deposits by investing only in major U.S. and international financial institutions. The credit risk from trade accounts receivable is limited because we have a large customer base which extends across many different markets and several foreign countries. For information regarding concentrations of credit risk associated with our derivative financial instruments, see Note 11.

Note 11 — Derivative Instruments and Hedging Activities

We are exposed to certain market risks related to our ongoing business operations. Management uses derivative financial and commodity instruments, among other things, to manage these risks. The primary risks managed by derivative instruments are (1) commodity price risk, (2) interest rate risk and (3) foreign currency exchange rate risk. Although we use derivative financial and commodity instruments to reduce market risk associated with forecasted transactions, we do not use derivative financial and commodity instruments for speculative or trading purposes. The use of derivative instruments is controlled by our risk management and credit policies which govern, among other things, the derivative instruments we can use, counterparty credit limits and contract authorization limits. Although our commodity derivative instruments extend over a number of years, a significant portion of our commodity derivative instruments economically hedge commodity price risk during the next twelve months. For more information on the accounting for our derivative instruments, see Note 2.

Commodity Price Risk

In order to manage market price risk associated with changes in prices for LPG, we use over-the-counter price swap contracts to reduce commodity price volatility associated with a portion of our forecasted LPG purchases. At March 31, 2019, September 30, 2018 and March 31, 2018, total volumes associated with LPG commodity derivative instruments totaled 191.9 million gallons, 149.5 million gallons and 77.8 million gallons, respectively. At March 31, 2019, the maximum period over which we are economically hedging our exposure to LPG commodity price risk is 24 months.

In order to manage market price risk associated with fixed-price sales contracts for natural gas and electricity, we enter into natural gas and electricity futures and forward contracts some of which qualify for NPNS under GAAP. At March 31, 2019, total volumes associated with natural gas forward and futures contracts and electricity forward and futures contracts totaled 9.7 million dekatherms and 2,783 million kilowatt hours, respectively. At September 30, 2018, total volumes associated with natural gas forward and futures contracts and electricity long forward and futures contracts totaled 9.0 million dekatherms and 3,603 million kilowatt hours, respectively. At March 31, 2018, total volumes associated with natural gas forward and futures contracts and electricity forward and futures contracts totaled 7.3 million dekatherms and 3,397 million kilowatt hours, respectively. At March 31, 2019, the maximum period over which we are economically hedging our exposure to natural gas and electricity commodity price risk is 59 months.

Interest Rate Risk

Prior to their repayment on October 25, 2018 (see Note 5), UGI France's and Flaga's long-term debt agreements had interest rates that were generally indexed to short-term market interest rates. UGI France and Flaga entered into pay-fixed, receive-variable interest rate swap agreements to hedge the underlying euribor rates and LIBOR rates of interest on these variable-rate debt agreements. We designated these interest rate swaps as cash flow hedges. These interest rate swaps were settled concurrent with the repayment of the UGI France and Flaga long-term debt. In November 2018, the Company entered into pay-fixed, receive-variable interest rate swaps through October 18, 2022, to fix the underlying euribor rate on 2018 Credit Facilities Agreement term loan borrowings at 0.34%. We designated these interest rate swaps as cash flow hedges.

As of March 31, 2019, September 30, 2018 and March 31, 2018, the total notional amount of variable-rate debt subject to interest rate swap agreements (excluding Flaga's cross-currency swap prior to its repayment on October 25, 2018, as described below) was €300,000, €585,800 and €645,800, respectively. At March 31, 2019, the maximum period over which we are hedging our exposure to variable interest rates is 43 months. At March 31, 2019, September 30, 2018 and March 31, 2018, all interest rate hedges were pay-fixed, receive-variable interest rate swaps.

Foreign Currency Exchange Rate Risk

Forward Foreign Currency Exchange Contracts

In order to reduce exposure to foreign exchange rate volatility related to our foreign LPG operations, through September 30, 2016, we entered into forward foreign currency exchange contracts to hedge a portion of anticipated U.S. dollar-denominated LPG product purchases primarily during the heating-season months of October through March. We account for these foreign currency exchange contracts associated with anticipated purchases of U.S. dollar-denominated LPG as cash flow hedges. At March 31, 2019, the amount of net gains associated with currency rate risk expected to be reclassified into earnings during the next twelve months based upon current fair values is not material.

In order to reduce the volatility in net income associated with our foreign operations, principally as a result of changes in the U.S. dollar exchange rate to the euro and British pound sterling, we enter into forward foreign currency exchange contracts. Because these contracts do not qualify for hedge accounting treatment, realized and unrealized gains and losses on these contracts are recorded in “Other non-operating income (expense), net” on the Condensed Consolidated Statements of Income.

At March 31, 2019, September 30, 2018 and March 31, 2018, notional amounts associated with forward foreign currency contracts totaled $299,076, $512,206 and $496,244, respectively. At March 31, 2019, the maximum period over which we are hedging our exposure to forward foreign currency contracts is 30 months.

From time to time, we also enter into forward foreign currency exchange contracts to reduce the volatility of the U.S. dollar value of a portion of our euro-denominated net investments. We account for these foreign currency exchange contracts as net investment hedges. We use the forward rate method for measuring ineffectiveness for these net investment hedges and all changes in the fair value of the forward foreign currency contracts are reported in the cumulative translation adjustment component of AOCI. At March 31, 2019, forward foreign currency contracts designated as net investment hedges totaled €172,785. At September 30, 2018 and March 31, 2018, we had no euro-denominated net investment hedges.

Concurrent with the issuance of euro-denominated long-term debt under the 2018 UGI International Credit Facilities Agreement and the UGI International 3.25% Senior Notes in October 2018, we designated this euro-denominated debt as net investment hedges of a portion of our euro-denominated UGI International net investment (see Note 5).

Cross-Currency Swaps

Prior to its repayment on October 25, 2018 (see Note 5), Flaga entered into cross-currency swaps to hedge its exposure to the variability in expected future cash flows associated with the foreign currency and interest rate risk of its U.S. dollar denominated variable-rate term loan. These cross-currency hedges included initial and final exchanges of principal from a fixed euro denomination to a fixed U.S. dollar-denominated amount, to be exchanged at a specified rate, which was determined by the market spot rate on the date of issuance. These cross-currency swaps also included interest rate swaps of a floating U.S. dollar-denominated interest rate to a fixed euro-denominated interest rate. We designated these cross-currency swaps as cash flow hedges. These cross-currency hedges were settled concurrent with the repayment of Flaga’s U.S. dollar variable rate term loan in October 2018. At both September 30, 2018 and March 31, 2018, notional amounts associated with cross-currency swaps totaled $49,914.

Derivative Instrument Credit Risk

We are exposed to risk of loss in the event of nonperformance by our derivative instrument counterparties. Our derivative instrument counterparties principally comprise large energy companies and major U.S. and international financial institutions. We maintain credit policies with regard to our counterparties that we believe reduce overall credit risk. These policies include evaluating and monitoring our counterparties’ financial condition, including their credit ratings, and entering into agreements with counterparties that govern credit limits or entering into netting agreements that allow for offsetting counterparty receivable and payable balances for certain financial transactions, as deemed appropriate. Certain of these agreements call for the posting of collateral by the counterparty or by the Company in the form of letters of credit, parental guarantees or cash. Additionally, our commodity exchange-traded futures contracts generally require cash deposits in margin accounts. Although we have concentrations of credit risk associated with derivative instruments, the maximum amount of loss we would incur if these counterparties failed to perform according to the terms of their contracts, based upon the gross fair values of the derivative instruments, was not material at March 31, 2019.

Offsetting Derivative Assets and Liabilities

Derivative assets and liabilities are presented net by counterparty on our Condensed Consolidated Balance Sheets if the right of offset exists. We offset amounts recognized for the right to reclaim cash collateral or the obligation to return cash collateral against amounts recognized for derivative instruments executed with the same counterparty. Our derivative instruments principally comprise over-the-counter transactions. Over-the-counter contracts are bilateral contracts that are transacted directly with a third party. Certain over-the-counter contracts contain contractual rights of offset through master netting arrangements, derivative clearing agreements, and contract default provisions. In addition, the contracts are subject to conditional rights of offset through counterparty nonperformance, insolvency, or other conditions.

In general, most of our over-the-counter transactions are subject to collateral requirements. Types of collateral generally include cash or letters of credit. Cash collateral paid by us to our derivative counterparties, if any, is reflected in the table below to offset derivative liabilities. Cash collateral received by us from our derivative counterparties, if any, is reflected in the table below to offset derivative assets. Certain other accounts receivable and accounts payable balances recognized on our condensed consolidated balance sheet with our derivative counterparties are not included in the table below but could reduce our net exposure to such counterparties because such balances are subject to master netting or similar arrangements.

(Currency in thousands, except where indicated otherwise)

Fair Value of Derivative Instruments

The following table presents the Company's derivative assets and liabilities by type, as well as the effects of offsetting:

	March 31, 2019	September 30, 2018	March 31, 2018
Derivative assets:			
Derivatives designated as hedging instruments:			
Foreign currency contracts	$ 7,072	$ 1,501	$ 350
Cross-currency contracts	—	913	—
	7,072	2,414	350
Derivatives not designated as hedging instruments:			
Commodity contracts	16,820	124,158	32,277
Foreign currency contracts	22,690	19,143	13,596
	39,510	143,301	45,873
Total derivative assets - gross	46,582	145,715	46,223
Gross amounts offset in balance sheet	(7,572)	(9,875)	(14,360)
Cash collateral received	—	(4,911)	(378)
Total derivative assets - net	$ 39,010	$ 130,929	$ 31,485
Derivative liabilities:			
Derivatives designated as hedging instruments:			
Foreign currency contracts	$ —	$ (359)	$ (4,026)
Cross-currency contracts	—	—	(2,244)
Interest rate contracts	(3,188)	(1,044)	(1,853)
	(3,188)	(1,403)	(8,123)
Derivatives not designated as hedging instruments:			
Commodity contracts	(26,482)	(4,270)	(2,877)
Foreign currency contracts	(4,876)	(14,023)	(39,486)
	(31,358)	(18,293)	(42,363)
Total derivative liabilities - gross	(34,546)	(19,696)	(50,486)
Gross amounts offset in balance sheet	7,572	9,875	14,360
Total derivative liabilities - net	$ (26,974)	$ (9,821)	$ (36,126)

(Currency in thousands, except where indicated otherwise)

Effects of Derivative Instruments

The following tables provide information on the effects of derivative instruments on the Condensed Consolidated Statements of Income and changes in AOCI for the three and six months ended March 31, 2019 and 2018:

Three Months Ended March 31,:

Cash Flow Hedges:	Gain (Loss) Recognized in AOCI 2019	Gain (Loss) Recognized in AOCI 2018	Gain (Loss) Reclassified from AOCI into Income 2019	Gain (Loss) Reclassified from AOCI into Income 2018	Location of Gain (Loss) Reclassified from AOCI into Income
Foreign currency contracts	$ 187	$ (3,185)	$ 1,337	$ (3,976)	Cost of sales
Interest rate contracts	(1,520)	600	(410)	258	Interest expense
Cross-currency contracts	—	225	—	268	Interest expense/other operating (income) expense, net
Total	$ (1,333)	$ (2,360)	$ 927	$ (3,450)	
Net Investment Hedges:					
Foreign currency contracts	$ 5,902	$ —			

Derivatives Not Designated as Hedging Instruments:	(Loss) Gain Recognized in Income 2019	(Loss) Gain Recognized in Income 2018	Location of Gain (Loss) Recognized in Income
Commodity contracts	$ (34,346)	$ (20,267)	Cost of sales
Foreign currency contracts	7,837	(10,992)	Other non-operating income (expense), net
Total	$ (26,509)	$ (31,259)	

Six Months Ended March 31,:

Cash Flow Hedges:	Gain (Loss) Recognized in AOCI 2019	Gain (Loss) Recognized in AOCI 2018	Gain (Loss) Reclassified from AOCI into Income 2019	Gain (Loss) Reclassified from AOCI into Income 2018	Location of Gain (Loss) Reclassified from AOCI into Income
Foreign currency contracts	$ 1,185	$ (4,542)	$ 2,098	$ (3,092)	Cost of sales
Interest rate contracts	(2,667)	1,242	(1,045)	511	Interest expense
Cross-currency contracts	(76)	358	(313)	490	Interest expense/other operating (income) expense, net
Total	$ (1,558)	$ (2,942)	$ 740	$ (2,091)	
Net Investment Hedges:					
Foreign currency contracts	$ 6,842	$ —			

Derivatives Not Designated as Hedging Instruments:	(Loss) Gain Recognized in Income 2019	(Loss) Gain Recognized in Income 2018	Location of Gain (Loss) Recognized in Income
Commodity contracts	$(130,653)	$ 4,147	Cost of sales
Foreign currency contracts	16,716	(15,779)	Other non-operating income (expense), net
Total	$(113,937)	$ (11,632)	

(Currency in thousands, except where indicated otherwise)

For the three and six months ended March 31, 2019 and 2018, the amounts of derivative gains or losses representing ineffectiveness and the amounts of gains or losses recognized in income as a result of excluding derivatives from ineffectiveness testing were not material.

We are also a party to a number of other contracts that have elements of a derivative instrument. These contracts include, among others, binding purchase orders and contracts that provide for the purchase and delivery, or sale, of energy products. Although certain of these contracts have the requisite elements of a derivative instrument, these contracts qualify for NPNS exception accounting because they provide for the delivery of products or services in quantities that are expected to be used in the normal course of operating our business and the price in the contract is based on an underlying that is directly associated with the price of the product or service being purchased or sold.

Note 12 — Accumulated Other Comprehensive Income

The tables below present changes in AOCI during the three and six months ended March 31, 2019 and 2018:

Three Months Ended March 31, 2019	Postretirement Benefit Plans	Derivative Instruments	Foreign Currency	Total
AOCI - December 31, 2018	$ (2,292)	$ (879)	$ (99,389)	$ (102,560)
Other comprehensive loss before reclassification adjustments (after-tax)	—	(568)	(26,826)	(27,394)
Amounts reclassified from AOCI:				
Reclassification adjustments (pre-tax)	114	(927)	—	(813)
Reclassification adjustments tax (benefit) expense	(39)	292	—	253
Reclassification adjustments (after-tax)	75	(635)	—	(560)
Other comprehensive income (loss)	75	(1,203)	(26,826)	(27,954)
AOCI - March 31, 2019	$ (2,217)	$ (2,082)	$ (126,215)	$ (130,514)

Three Months Ended March 31, 2018	Postretirement Benefit Plans	Derivative Instruments	Foreign Currency	Total
AOCI - December 31, 2017	$ (3,130)	$ (4,962)	$ (30,857)	$ (38,949)
Other comprehensive (loss) income before reclassification adjustments (after-tax)	—	(1,622)	35,950	34,328
Amounts reclassified from AOCI:				
Reclassification adjustments (pre-tax)	(122)	3,450	—	3,328
Reclassification adjustments tax expense (benefit)	42	(1,245)	—	(1,203)
Reclassification adjustments (after-tax)	(80)	2,205	—	2,125
Other comprehensive (loss) income	(80)	583	35,950	36,453
AOCI - March 31, 2018	$ (3,210)	$ (4,379)	$ 5,093	$ (2,496)

(Currency in thousands, except where indicated otherwise)

Six Months Ended March 31, 2019	Postretirement Benefit Plans	Derivative Instruments	Foreign Currency	Total
AOCI - September 30, 2018	$ (2,347)	$ (671)	$ (83,735)	$ (86,753)
Other comprehensive loss before reclassification adjustments (after-tax)	—	(896)	(42,480)	(43,376)
Amounts reclassified from AOCI:				
Reclassification adjustments (pre-tax)	198	(740)	—	(542)
Reclassification adjustments tax (benefit) expense	(68)	225	—	157
Reclassification adjustments (after-tax)	130	(515)	—	(385)
Other comprehensive income (loss)	130	(1,411)	(42,480)	(43,761)
AOCI - March 31, 2019	$ (2,217)	$ (2,082)	$ (126,215)	$ (130,514)

Six Months Ended March 31, 2018	Postretirement Benefit Plans	Derivative Instruments	Foreign Currency	Total
AOCI - September 30, 2017	$ (3,126)	$ (3,619)	$ (53,294)	$ (60,039)
Other comprehensive (loss) income before reclassification adjustments (after-tax)	—	(2,007)	58,387	56,380
Amounts reclassified from AOCI:				
Reclassification adjustments (pre-tax)	(128)	2,091	—	1,963
Reclassification adjustments tax expense (benefit)	44	(844)	—	(800)
Reclassification adjustments (after-tax)	(84)	1,247	—	1,163
Other comprehensive (loss) income	(84)	(760)	58,387	57,543
AOCI - March 31, 2018	$ (3,210)	$ (4,379)	$ 5,093	$ (2,496)

For additional information on amounts reclassified from AOCI relating to derivative instruments, see Note 11.

Note 13 — Related Party Transactions

UGI provides certain financial and administrative services to the Company. UGI bills the Company for all direct expenses incurred or paid on behalf of the Company and the Company reimburses UGI for such direct expenses. In addition, Enterprises, as the parent company of UGI International, is billed for the Company’s allocated share of UGI indirect corporate expenses. This allocated share is based upon a weighted, three-component formula comprising revenues, operating expenses and net assets employed and considers the Company’s relative percentage of such items to the total of such items for all UGI Corporation operating subsidiaries for which general and administrative services are provided. Management believes that this allocation method is reasonable and equitable. The amounts of UGI allocated indirect corporate expenses billed to Enterprises on behalf of the Company have been included in "Operating and administrative expenses - related parties" on the Condensed Consolidated Statements of Income. The amount of such allocated expenses billed to Enterprises, net of any income tax benefit, is reflected as "Capital contribution - allocated expenses" on the Condensed Consolidated Statements of Changes in Equity.

Note 14 — Voluntary Departure Plans

UGI France has several VDPs pursuant to which employees are incentivized to voluntarily terminate employment or may be subject to involuntary termination to reach certain headcount reductions approved by employee work councils and government regulatory bodies which assure termination plans are in compliance with French labor laws. Expenses recorded under the VDPs are included in "Operating and administrative expenses" on the Condensed Consolidated Statements of Income.

(Currency in thousands, except where indicated otherwise)

The following tables reflect changes in the accrued amounts for the six months ended March 31, 2019 and 2018 associated with the VDPs:

Balance at September 30, 2018	$ 19,441
Amounts paid or settled	(5,652)
Foreign currency translation	(599)
Balance at March 31, 2019	$ 13,190

Balance at September 30, 2017	$ 24,519
Amounts paid or settled	(12,830)
Foreign currency translation	575
Balance at March 31, 2018	$ 12,264

Executive Overview

The following analyses compare our results of operations for the 2019 three-month period with the 2018 three-month period, and the 2019 six-month period with the 2018 six-month period.

Because the Company does not designate its commodity and certain foreign currency derivative instruments as hedges under GAAP, volatility in net income (loss) attributable to UGI International as determined in accordance with GAAP can occur as a result of gains and losses on commodity and certain foreign currency derivative instruments not associated with current-period transactions. These gains and losses result principally from recording changes in unrealized gains and losses on unsettled commodity and certain foreign currency derivative instruments that economically hedge anticipated future purchases or sales of energy commodities, or in the case of certain foreign currency derivatives, reduce volatility in anticipated future earnings associated with our foreign operations. In order to adjust for the impacts of these changes in unrealized gains and losses, we present the non-GAAP measures, adjusted total margin, adjusted operating income, adjusted income before income taxes and adjusted net income attributable to UGI International, in order to assist in the evaluation of UGI International's overall performance. For further information on these non-GAAP measures and reconciliations to the most closely associated GAAP measures, see "Non-GAAP Financial Measures" below.

Three Months Ended March 31, 2019

Net income attributable to UGI International as determined in accordance with GAAP was $65.3 million in the 2019 three-month period compared to $61.1 million in the 2018 three-month period. Our GAAP results in the 2019 three-month period reflect after-tax losses on commodity derivative instruments not associated with current-period transactions of $23.0 million compared to GAAP results in the 2018 three-month period that reflect after-tax losses on commodity derivative instruments not associated with current period transactions of $13.2 million. Our GAAP results also reflect after-tax unrealized gains (losses) on certain foreign currency derivative instruments not associated with current period transactions of $3.2 million and $(1.4) million in the 2019 and 2018 three-month periods, respectively.

Our adjusted net income of $85.1 million for the 2019 three-month period was comparable to the 2018 three-month period. Temperatures in the 2019 three-month period were 7.5% warmer than normal and 9.5% warmer than the prior year. The warmer temperatures reduced LPG gallons sold but the impact of the lower volumes on total margin was partially offset by slightly higher average retail LPG unit margin.

UGI International base-currency results are translated into U.S. dollars based upon exchange rates experienced during the reporting periods. The functional currency of a significant portion of our results is the euro and, to a much lesser extent, the British pound sterling. During the 2019 and 2018 three-month periods, the average unweighted euro-to-dollar translation rates were approximately $1.14 and $1.23, respectively, and the average unweighted British pound sterling-to-dollar translation rates were approximately $1.30 and $1.39, respectively. Although the euro and the British pound sterling were weaker during the current-year period which had the effect of reducing translated results, UGI International's period-over-period adjusted net income was favorably impacted by significantly higher realized gains on foreign currency contracts used to reduce volatility in foreign earnings.

Six Months Ended March 31, 2019

Net income attributable to UGI International as determined in accordance with GAAP was $37.0 million in the 2019 six-month period compared to $132.3 million in the 2018 six-month period. Our GAAP results in the 2019 six-month period reflect after-tax losses on commodity derivative instruments not associated with current-period transactions of $90.3 million compared to GAAP results in the 2018 six-month period that reflect after-tax losses on commodity derivative instruments not associated with current period transactions of $1.5 million. Our GAAP results also reflect after-tax unrealized gains (losses) on foreign currency derivative instruments not associated with current period transactions of $9.0 million and $(1.4) million in the 2019 and 2018 six-month periods, respectively.

Our adjusted net income was $16.2 million (11.7%) lower in the 2019 six-month period compared with the prior-year period. Temperatures in the 2019 six-month period at UGI International were 8.5% warmer than the prior year. Total retail gallons sold during the 2019 six-month period were approximately 7.2% lower reflecting lower volumes associated with crop drying as a result of a very warm and dry summer, and the effects of the significantly warmer weather on heating-related bulk sales.

During the 2019 and 2018 six-month periods, the average unweighted euro-to-dollar translation rates were approximately $1.14 and $1.20, respectively, and the average unweighted British pound sterling-to-dollar translation rates were approximately $1.29 and $1.36, respectively. Although the euro and the British pound sterling were weaker during the current-year period which had the effect of reducing translated results, UGI International’s period-over-period adjusted net income benefited from significantly higher realized gains on foreign currency contracts used to reduce volatility in foreign earnings.

Prior-Year Impact of Tax Law Changes

Net income for the 2018 three and six-month periods were affected by the December 2017 French Finance Bills and the enactment of the TCJA in the U.S. In December 2017, the French Parliament approved the December 2017 French Finance Bills. Among other things, the December 2017 French Finance Bills increased the Fiscal 2018 corporate income tax rate in France from 34.4% to 39.4%. In addition, the December 2017 French Finance Bills included measures to ratably reduce the corporate income tax rate to 25.8% effective for fiscal years starting after January 1, 2022 (Fiscal 2023). We are subject to a 34.4% French corporate tax rate in Fiscal 2019.

The TCJA was enacted into law on December 22, 2017. Among other things, the TCJA reduces the U.S. federal income tax rate from 35% to 21% effective January 1, 2018, and creates a territorial tax system with a one-time mandatory “toll tax” on previously un-repatriated foreign earnings. In the U.S. we were subject to a blended U.S. federal income tax rate of 24.5% for Fiscal 2018 because our fiscal year contains the effective date of the rate change from 35% to 21%. We are subject to a U.S. federal income tax rate of 21% in Fiscal 2019.

Our financial results for the 2018 six-month period includes remeasurement adjustments to our deferred income tax assets and liabilities, accrued income taxes and deferred tax valuation allowances existing as of the dates these tax laws were enacted. These remeasurement adjustments and adjustments to these amounts recorded during the three months ended March 31, 2018, have been excluded from adjusted net income attributable to UGI International, a non-GAAP financial measure, which is presented under "Non-GAAP Financial Measures" below.

Non-GAAP Financial Measures

UGI International’s management presents the non-GAAP measures, adjusted total margin, adjusted operating income, adjusted income before income taxes and adjusted net income attributable to UGI International, in order to assist in the evaluation of UGI International’s overall performance. Management believes that these non-GAAP measures provide meaningful information to investors about UGI International’s performance because they eliminate the impact of (1) gains and losses on commodity and certain foreign currency derivative instruments not associated with current-period transactions, principally comprising changes in unrealized gains and losses on such derivative instruments and (2) other significant discrete items that can affect the comparisons of period-over-period results. These financial measures are not in accordance with, or an alternative to, GAAP and should be considered in addition to, and not as a substitute for, the comparable GAAP measures.

The following table includes reconciliations of adjusted total margin, adjusted operating income, adjusted income before income taxes and adjusted net income attributable to UGI International to the most directly comparable financial measures calculated and presented in accordance with GAAP for the periods presented.

UGI INTERNATIONAL, LLC AND SUBSIDIARIES

(Millions of dollars)	Three Months Ended March 31, 2019	Three Months Ended March 31, 2018	Six Months Ended March 31, 2019	Six Months Ended March 31, 2018
Adjusted total margin:				
Total revenues	$ 783.1	$ 909.6	$ 1,493.9	$ 1,693.8
Cost of sales (a)	(473.2)	(561.7)	(1,019.2)	(1,029.5)
Total margin	309.9	347.9	474.7	664.3
Net losses on commodity derivative instruments not associated with current-period transactions (a)	28.6	20.6	125.9	3.5
Adjusted total margin	$ 338.5	$ 368.5	$ 600.6	$ 667.8
Adjusted operating income:				
Operating income	$ 95.0	$ 108.7	$ 53.7	$ 217.2
Net losses on commodity derivative instruments not associated with current-period transactions	28.6	20.6	125.9	3.6
Integration expenses associated with Finagaz	—	11.3	—	13.2
Adjusted operating income	$ 123.6	$ 140.6	$ 179.6	$ 234.0
Adjusted income before income taxes:				
Income before income taxes	$ 96.7	$ 92.2	$ 52.7	$ 189.9
Net losses on commodity derivative instruments not associated with current-period transactions	28.6	20.6	125.9	3.6
Unrealized (gains) losses on foreign currency derivative instruments	(4.6)	2.0	(12.7)	2.1
Loss on extinguishments of debt	—	—	6.1	—
Integration expenses associated with Finagaz	—	11.3	—	13.2
Adjusted income before income taxes	$ 120.7	$ 126.1	$ 172.0	$ 208.8
Adjusted net income attributable to UGI International:				
Net income attributable to UGI International, LLC	$ 65.3	$ 61.1	$ 37.0	$ 132.3
Net losses on commodity derivative instruments not associated with current-period transactions (a)	23.0	13.2	90.3	1.5
Unrealized (gains) losses on foreign currency derivative instruments	(3.2)	1.4	(9.0)	1.4
Loss on extinguishments of debt	—	—	4.2	—
Integration expenses associated with Finagaz	—	6.8	—	8.0
Remeasurement impact from TCJA	—	(0.2)	—	9.1
Impact from French Finance Bills	—	3.7	—	(13.6)
Adjusted net income attributable to UGI International	$ 85.1	$ 86.0	$ 122.5	$ 138.7

(a) Includes the impact of rounding.

Analysis of Results of Operations

The following analysis compares UGI International’s results of operations for the 2019 three-month period with the 2018 three-month period.

2019 Three-Month Period Compared to the 2018 Three-Month Period:

UGI International	2019	2018	Increase (Decrease)	
(Dollars in millions)				
Revenues	$ 783.1	$ 909.6	$ (126.5)	(13.9)%
Total margin (a)	$ 309.9	$ 347.9	$ (38.0)	(10.9)%
Operating and administrative expenses (b)	$ 184.7	$ 202.0	$ (17.3)	(8.6)%
Operating income	$ 95.0	$ 108.7	$ (13.7)	(12.6)%
Income before income taxes (c)	$ 96.7	$ 92.2	$ 4.5	4.9 %
Net income attributable to UGI International	$ 65.3	$ 61.1	$ 4.2	6.9 %
Non-GAAP financial measures (d):				
Adjusted total margin	$ 338.5	$ 368.5	$ (30.0)	(8.1)%
Adjusted operating income	$ 123.6	$ 140.6	$ (17.0)	(12.1)%
Adjusted income before income taxes	$ 120.7	$ 126.1	$ (5.4)	(4.3)%
Adjusted net income attributable to UGI International	$ 85.1	$ 86.0	$ (0.9)	(1.0)%
LPG retail gallons sold (millions)	258.7	274.4	(15.7)	(5.7)%
Degree days – % (warmer) colder than normal (e)	(7.5)%	2.2%	—	—

(a) Total margin represents total revenues less total cost of sales. Total margin for the three months ended March 31, 2019 and March 31, 2018 includes net pre-tax losses of $28.6 million and $20.6 million, respectively, on commodity derivative instruments not associated with current-period transactions.
(b) The 2018 three-month period includes Finagaz integration expenses of $11.3 million.
(c) Income before income taxes for the three months ended March 31, 2019 and 2018 includes net pre-tax unrealized gains (losses) on certain foreign currency derivative contracts of $4.6 million and $(2.0) million, respectively. Income before income taxes for the three months ended March 31, 2019 and 2018 includes realized gains (losses) on certain foreign currency derivative contracts of $3.3 million and $(9.0) million, respectively.
(d) These financial measures are non-GAAP financial measures and are not in accordance with, or an alternative to, GAAP and should be considered in addition to, and not a substitute for, the comparable GAAP measures. See "Non-GAAP Financial Measures" above.
(e) Deviation from average heating degree days for the 15-year period 2002-2016 at locations in our UGI International service territories.

Average temperatures during the 2019 three-month period were 7.5% warmer than normal and 9.5% warmer than the prior-year period. Total retail gallons sold during the 2019 three-month period were 5.7% lower reflecting the effects of the significantly warmer weather on heating-related bulk sales, primarily sales to residential heating customers.

UGI International base-currency results are translated into U.S. dollars based upon exchange rates experienced during the reporting periods. Differences in these translation rates affect the comparison of line item amounts presented in the table above. The functional currency of a significant portion of our UGI International results is the euro and, to a much lesser extent, the British pound sterling. During the 2019 and 2018 three-month periods, the average unweighted euro-to-dollar translation rates were approximately $1.14 and $1.23, respectively, and the average unweighted British pound sterling-to-dollar translation rates were approximately $1.30 and $1.39, respectively. During the three months ended March 31, 2019 and 2018, realized gains and losses on foreign currency exchange contracts used to reduce volatility in foreign net income settled at average euro-to-dollar exchange rates of $1.17 and $1.09, respectively, and at average British pound sterling-to-dollar exchange rates of $1.30 and $1.27, respectively.

Revenues decreased $126.5 million during the 2019 three-month period principally reflecting the translation effects of the weaker euro and British pound sterling (approximately $65 million) and the effects of the lower retail and lower wholesale LPG volumes sold. Cost of sales in the 2019 three-month period includes net losses of $28.6 million on commodity derivative instruments not associated with current-period transactions while cost of sales in the 2018 three-month period includes net losses of $20.6 million on commodity derivative instruments not associated with current-period transactions. Excluding the effects of these losses on commodity derivative instruments, cost of sales decreased $96.5 million during the 2019 three-month period principally reflecting the translation effects of the weaker euro and British pound sterling (approximately $37 million), the lower retail and wholesale LPG volumes sold, and slightly lower average LPG product costs.

Total margin (which includes the effects of the previously mentioned losses on derivative commodity instruments not associated with current-period transactions) decreased $38.0 million. Adjusted total margin decreased $30.0 million largely reflecting the translation effects of the weaker euro and British pound sterling (approximately $28 million). Local currency total margin was slightly lower in the 2019 three-month period as the effects of the lower retail LPG volumes sold were largely offset by higher average LPG unit margins mainly reflecting margin management efforts and, to a lesser extent, recovery of energy conservation compliance costs.

Operating income determined in accordance with GAAP (which includes the effects of the previously mentioned gains and losses on derivative commodity instruments not associated with current-period transactions and Finagaz integration expenses in the 2018 three-month period) was $95.0 million, a decrease of $13.7 million. Adjusted operating income decreased $17.0 million principally reflecting the previously mentioned $30.0 million decrease in adjusted total margin partially offset by lower operating and administrative expenses ($6.0 million excluding the impact of Finagaz integration expenses), lower depreciation and amortization expense ($4.3 million), and slightly higher other operating income ($2.5 million). The decrease in operating and administrative expenses reflects, in large part, the translation effects of the weaker euro and British pound sterling. Operating and administrative expenses in the prior-year three-month period reflected in the table above include $11.3 million of Finagaz integration costs. Excluding the impact of the Finagaz integration costs in the prior-year period, local currency operating and administrative expenses in the current-year period were higher reflecting, in large part, higher compliance costs associated with energy conservation and costs related to strategic projects. The lower depreciation and amortization expense principally reflects the translation effects of the weaker currencies (approximately $2.5 million) and, to a lesser extent, slightly lower local currency depreciation and amortization expense.

Income before income taxes determined in accordance with GAAP (which includes the effects of the previously mentioned gains and losses on derivative commodity instruments not associated with current-period transactions; Finagaz integration expenses in the prior-year period; and gains and losses on certain foreign currency contracts) was $96.7 million for the 2019 three-month period, an increase of $4.5 million from the prior-year period. Adjusted income before income taxes in the 2019 three-month period decreased $5.4 million as the lower adjusted operating income was partially offset by higher pre-tax realized gains on foreign currency exchange contracts entered into in order to reduce volatility in UGI International net income resulting from the translation effects of changes in foreign currency exchange rates ($12.3 million).

Interest Expense and Income Taxes

Interest expense in the 2019 three-month period was $6.1 million compared to $5.2 million in the 2018 three-month period. The higher interest expense principally reflects the effects of higher average long-term debt interest rates.

As previously mentioned, our consolidated income taxes for the 2018 three-month period were impacted by the enactment of the TCJA in the U.S. and the December 2017 French Finance Bills. Our effective tax rate for the 2018 three-month period reflects the effects of deferred income tax asset and liability remeasurement adjustments resulting from the TCJA and the December 2017 French Finance Bills, which net remeasurement adjustments increased 2018 three-month period income tax expense by approximately $3.5 million.

2019 Six-Month Period Compared to the 2018 Six-Month Period:

UGI International	2019	2018	(Decrease)	
(Dollars in millions)				
Revenues	$ 1,493.9	$ 1,693.8	$ (199.9)	(11.8)%
Total margin (a)	$ 474.7	$ 664.3	$ (189.6)	(28.5)%
Operating and administrative expenses (b)	$ 361.3	$ 377.6	$ (16.3)	(4.3)%
Operating income	$ 53.7	$ 217.2	$ (163.5)	(75.3)%
Income before income taxes (c) (d)	$ 52.7	$ 189.9	$ (137.2)	(72.2)%
Net income attributable to UGI International	$ 37.0	$ 132.3	$ (95.3)	(72.0)%
Non-GAAP financial measures (e):				
Adjusted total margin	$ 600.6	$ 667.8	$ (67.2)	(10.1)%
Adjusted operating income	$ 179.6	$ 234.0	$ (54.4)	(23.2)%
Adjusted income before income taxes	$ 172.0	$ 208.8	$ (36.8)	(17.6)%
Adjusted net income attributable to UGI International	$ 122.5	$ 138.7	$ (16.2)	(11.7)%
LPG retail gallons sold (millions)	496.3	535.0	(38.7)	(7.2)%
Degree days – % (warmer) colder than normal (f)	(7.6)%	1.0%	—	—

(a) Total margin represents total revenues less total cost of sales. Total margin for the six months ended March 31, 2019 and March 31, 2018 includes net pre-tax losses of $125.9 million and $3.6 million, respectively, on commodity derivative instruments not associated with current-period transactions.
(b) The 2018 six-month period includes Finagaz integration expenses of $13.2 million.
(c) Income before income taxes for the six months ended March 31, 2018 and 2018 includes net pre-tax unrealized gains (losses) on certain foreign currency derivative contracts of $12.7 million and $(2.1) million, respectively. Income before income taxes for the six months ended March 31, 2019 and 2018 includes realized gains (losses) on certain foreign currency derivative contracts of $4.0 million and $(13.7) million, respectively.
(d) Income before income taxes during the six months ended March 31, 2019, includes a $6.1 million pre-tax loss on extinguishments of debt.
(e) These financial measures are non-GAAP financial measures and are not in accordance with, or an alternative to, GAAP and should be considered in addition to, and not a substitute for, the comparable GAAP measures. See “Non-GAAP Financial Measures” above.
(f) Deviation from average heating degree days for the 15-year period 2002-2016 at locations in our UGI International service territories.

Average temperatures during the 2019 six-month period were 7.6% warmer than normal and 8.5% warmer than the prior-year period. Total retail gallons sold during the 2019 six-month period were 7.2% lower reflecting lower volumes associated with crop drying as a result of a very warm and dry summer, and the effects of the warmer weather on heating-related bulk sales, primarily sales to residential heating customers.

UGI International base-currency results are translated into U.S. dollars based upon exchange rates experienced during the reporting periods. Differences in these translation rates affect the comparison of line item amounts presented in the table above. The functional currency of a significant portion of our UGI International results is the euro and, to a much lesser extent, the British pound sterling. During the 2019 and 2018 six-month periods, the average unweighted euro-to-dollar translation rates were approximately $1.14 and $1.20, respectively, and the average unweighted British pound sterling-to-dollar translation rates were approximately $1.29 and $1.36, respectively. During the six months ended March 31, 2019 and 2018, realized gains and losses on foreign currency exchange contracts used to reduce volatility in our foreign operations net income settled at average euro-to-dollar exchange rates of $1.17 and $1.09, respectively, and at average British pound sterling-to-dollar exchange rates of $1.30 and $1.27, respectively.

Revenues decreased $199.9 million during the 2019 six-month period principally reflecting the lower retail and lower wholesale LPG volumes sold, and the translation effects of the weaker euro and British pound sterling (approximately $90 million). Cost of sales in the 2019 and 2018 three-month periods include net losses of $125.9 million and $3.6 million on commodity derivative instruments not associated with current-period transactions. Excluding the effects of these losses on commodity derivative instruments, cost of sales decreased $132.7 million during the 2019 six-month period principally reflecting the effects of the lower LPG retail and wholesale volumes sold, the translation effects of the weaker euro and British pound sterling (approximately $55 million), and the effects of slightly lower average wholesale prices for LPG. Although the average un-weighted wholesale price for LPG during the 2019 six-month period was slightly lower than in the prior-year period, wholesale LPG prices during late Fiscal 2018 and early in the 2019 six-month period were higher than in the prior-year period resulting in higher LPG inventory costs entering the heating season.

Total margin (which includes the effects of the previously mentioned losses on derivative commodity instruments not associated with current-period transactions) decreased $189.6 million. Adjusted total margin decreased $67.2 million primarily reflecting the lower retail LPG volumes sold, and the translation effects of the weaker euro and British pound sterling (approximately $35 million). These decreases in total margin were partially offset by slightly higher average retail LPG unit margin.

Operating income determined in accordance with GAAP (which includes the effects of the previously mentioned losses on derivative commodity instruments not associated with current-period transactions and Finigaz integration expenses in the 2018 six-month period) was $53.7 million, a decrease of $163.5 million. The $54.4 million decrease in adjusted operating income principally reflects the $67.2 million decrease in adjusted total margin partially offset by lower operating and administrative expenses ($3.1 million excluding the impact of Finagaz integration expenses in the prior-year period), lower depreciation and amortization expense ($5.2 million), and higher other operating income ($4.7 million) which includes higher income on asset sales during the 2019 six-month period. The decrease in operating and administrative expenses reflects, in large part, the impact of the weaker euro and British pound sterling. Operating and administrative expenses in the prior-year period reflected in the table above include $13.2 million of Finagaz integration expenses. Excluding the Finagaz integration expenses recorded in the prior-year, local currency operating and administrative expenses were slightly higher principally reflecting higher compliance costs associated with energy conservation and costs related to strategic projects. The lower depreciation and amortization expense principally reflects the translation effects of the weaker currencies (approximately $3.5 million) and lower local currency depreciation and amortization expense.

Income before income taxes determined in accordance with GAAP (which includes the effects of the previously mentioned gains and losses on derivative commodity instruments not associated with current-period transactions; Finagaz integration expenses in the prior-year period; gains and losses on certain foreign currency contracts; and a loss on extinguishment of debt in the 2019 six-month period) was $52.7 million for the 2019 three-month period, a decrease of $137.2 million from the prior-year period. Adjusted income before income taxes in the 2019 six-month period was $36.8 million lower than the prior-year period principally reflecting the net effects of the $54.4 million decrease in adjusted operating income partially offset by higher pre-tax realized gains on foreign currency exchange contracts entered into in order to reduce volatility in UGI International net income resulting from changes in foreign exchange rates ($17.7 million).

Interest Expense and Income Taxes

Interest expense in the 2019 six-month period was $11.5 million compared to $10.8 million of interest expense in the 2018 six-month period. The slightly higher interest expense principally reflects the effects of higher average long-term debt interest rates.

As previously mentioned, our consolidated income taxes for the 2018 six-month period were impacted by the enactment of the TCJA in the U.S. and the March 2017 French Finance Bills. Our effective tax rate for the 2018 six-month period reflects the effects of deferred income tax asset and liability remeasurement adjustments resulting from the TCJA and the December 2017 French Finance Bills, which net remeasurement adjustments reduced 2018 six-month period income tax expense by approximately $4.5 million.

Liquidity and Capital Resources

We depend on both internal and external sources of liquidity to provide funds for working capital and to fund capital requirements. Our short-term cash requirements not met by cash from operations can generally be satisfied with borrowings under our primary credit facility, although we have generally not needed to borrow under such credit facility. Long-term cash requirements are generally met through the issuance of long-term debt or capital contributions. We believe that we have sufficient liquidity in the forms of cash and cash equivalents on hand; cash expected to be generated from operations; credit facility borrowing capacity; and the ability to obtain long-term financing to meet anticipated contractual and projected cash commitments.

The primary sources of our cash and cash equivalents have been cash flows generated from operations and cash contributions made by UGI principally to fund acquisitions of businesses. However, there can be no assurance that UGI will make contributions to our capital or otherwise provide funding in the future. Our primary uses of cash have been to fund acquisitions of businesses, repay long-term debt and pay distributions to our parent company. Our ability to service debt has been, and will continue to be, dependent upon our ability to generate cash from our operations. While UGI does not have a stated dividend policy with respect to its ownership of the Company, we expect to continue to pay dividends to our parent company with cash generated from operations.

Our cash and cash equivalents totaled $222.4 million at March 31, 2019, compared with $237.5 million at September 30, 2018.

Long-term debt and significant financing activities

UGI International's debt outstanding at March 31, 2019 totaled $740.0 million (including current maturities of long-term debt of $0.2 million). UGI International's debt outstanding at September 30, 2018, totaled $749.8 million (including current maturities of long-term debt of $0.3 million and short-term borrowings of $1.4 million). Total long-term debt outstanding at March 31, 2019, including current maturities, comprises $392.6 million of 3.25% Senior Notes, a $336.5 million variable-rate term loan, and $20.0 million of other long-term debt, and is net of $9.1 million of unamortized debt issuance costs.

On October 18, 2018, the Company entered into the 2018 Credit Facilities Agreement, a five-year unsecured Senior Facilities Agreement with a consortium of banks consisting of (1) a €300 million variable-rate term loan which was drawn on October 25, 2018, and (2) a €300 million senior unsecured multicurrency revolving facility agreement. The 2018 Credit Facilities Agreement matures on October 18, 2023. Term loan borrowings bear interest at rates per annum comprising the aggregate of the applicable margin and the associated euribor rate, which euribor rate has a floor of zero. The margin on term loan borrowings, which ranges from 1.55% to 3.20%, is dependent upon a ratio of net consolidated indebtedness to consolidated EBITDA, as defined in the 2018 Credit Facilities Agreement. The initial margin on term loan borrowings is 1.70%. The Company has entered into pay-fixed, receive-variable interest rate swaps through October 18, 2022, to fix the underlying euribor rate on term loan borrowings at 0.34%. Under the multicurrency revolving facility agreement, the Company may borrow in euros or U.S. dollars. Loans made in euros will bear interest at the associated euribor rate plus a margin ranging from 1.20% to 2.85%. Loans made in U.S. dollars will bear interest at the associated LIBOR rate plus a margin ranging from 1.45% to 3.10%. The margin on revolving facility borrowings is dependent upon a ratio of net consolidated indebtedness to consolidated EBITDA, as defined.

On October 25, 2018, the Company issued the 3.25% Senior Notes, in an underwritten private placement, comprising €350 million principal amount of senior unsecured notes due November 1, 2025.

The net proceeds from the 3.25% Senior Notes and the 2018 Credit Facilities Agreement variable-rate term loan plus cash on hand were used on October 25, 2018 (1) to repay €540 million outstanding principal of UGI France’s variable-rate term loan under its 2015 senior facilities agreement due April 2020; €45.8 million of outstanding principal of Flaga’s variable-rate term loan due October 2020; and $49.9 million of outstanding principal of Flaga’s U.S. dollar variable-rate term loan due April 2020, plus accrued and unpaid interest, and (2) for general corporate purposes.

Analysis of Adjusted EBITDA

We use the non-GAAP measures EBITDA and "Adjusted EBITDA" in assessing our ability to service debt and to comply with loan covenants. These financial measures are not in accordance with, or an alternative to, GAAP and should be considered in addition to, and not as an alternative to, comparable GAAP measures. See the table below for reconciliations of "EBITDA" and "Adjusted EBITDA" to net income attributable to UGI International, the most directly comparable financial measure calculated and presented in accordance with GAAP.

(Millions of dollars)	Three Months Ended March 31, 2019	Three Months Ended March 31, 2018	Six Months Ended March 31, 2019	Six Months Ended March 31, 2018
EBITDA and Adjusted EBITDA:				
Net income attributable to UGI International	$ 65.3	$ 61.1	$ 37.0	$ 132.3
Add net income (subtract net loss) attributable to noncontrolling interests (a)	0.1	(1.2)	0.2	(1.5)
Income tax expense	31.3	32.4	15.5	59.1
Interest expense	6.1	5.2	11.5	10.8
Depreciation and amortization	30.6	34.9	62.0	67.2
EBITDA	133.4	132.4	126.2	267.9
Net losses on commodity derivative instruments not associated with current-period transactions (a)	28.6	20.5	125.9	3.5
Unrealized (gains) losses on foreign currency derivative instruments	(4.6)	2.0	(12.7)	2.1
Loss on extinguishment of debt	—	—	6.1	—
Integration expenses associated with Finagaz	—	11.3	—	13.2
Adjusted EBITDA	$ 157.4	$ 166.2	$ 245.5	$ 286.7

(a) Includes the impact of rounding.

2019 Three-Month Period Compared to 2018 Three-Month Period

Adjusted EBITDA was $157.4 million in the 2019 three-month period, a decrease of $8.8 million from the three-months ended March 31, 2018. The decrease in Adjusted EBITDA principally reflects a $30.0 million decrease in adjusted total margin partially offset by a $6.0 million decrease in operating and administrative expenses (after adjusting for Finagaz integration expenses recorded in the prior-year period) and a $12.3 million increase in realized gains on certain foreign currency exchange contracts resulting from the slightly weaker euro and British pound sterling. During the 2019 and 2018 three-month periods, the average unweighted euro-to-dollar translation rates were approximately $1.14 and $1.23, respectively, and the average unweighted British pound sterling-to-dollar translation rates were approximately $1.30 and $1.39, respectively. Total retail gallons sold during the 2019 three-month period were approximately 5.7% lower reflecting lower volumes associated with crop drying as a result of a very warm and dry summer, and the effects of the significantly warmer weather on heating-related bulk sales.The $30.0 million decrease in adjusted total margin largely reflects the translation effects of the weaker euro and British pound sterling. Local currency total margin was slightly lower in the 2019 three-month period as the effects of the lower retail LPG volumes sold were largely offset by higher average LPG unit margins mainly reflecting margin management efforts and, to a lesser extent, recovery of energy conservation compliance costs. The $6.0 million decrease in operating and administrative expenses (after adjusting for the Finagaz integration expenses) reflects, in large part, the translation effects of the weaker euro and British pound sterling partially offset by higher local currency operating and administrative expenses.

2019 Six-Month Period Compared to 2018 Six-Month Period

Adjusted EBITDA was $245.5 million in the 2019 six-month period, a decrease of $41.2 million from the six-months ended March 31, 2018. The decrease in Adjusted EBITDA principally reflects a $67.2 million decrease in adjusted total margin partially offset by a $3.1 million decrease in operating and administrative expenses (after adjusting for the Finagaz integration expenses incurred in the prior-year period) and a $17.7 million increase in realized gains on certain foreign currency exchange contracts resulting from the slightly weaker euro and British pound sterling. Total retail gallons sold during the 2019 six-month period were 7.2% lower reflecting lower volumes associated with crop drying as a result of a very warm and dry summer, and the effects of the warmer weather on heating-related bulk sales, primarily sales to residential heating customers. The decrease in adjusted total margin primarily reflects the lower retail LPG volumes sold and the translation effects of the weaker euro and British pound sterling. These decreases in total margin were partially offset by slightly higher average retail LPG unit margin. The $3.1 million decrease in operating and administrative expenses (after adjusting for Finagaz integration expense) reflects, in large part, the impact of the weaker euro and British pound sterling partially offset by slightly higher local currency operating and administrative expenses.

Cash Flows

Due to the seasonal nature of the Company’s businesses, cash flows from operating activities are generally strongest during the second and third fiscal quarters when customers pay for LPG consumed during the peak heating season months. Conversely, operating cash flows are generally at their lowest levels during the fourth and first fiscal quarters when the Company's investment in working capital, principally inventories and accounts receivable, is generally greatest.

Cash flows from operating activities can be significantly affected by year-to-year variations in changes in operating working capital reflecting changes in LPG commodity prices. Cash flow from investing activity is principally affected by cash expenditures for property, plant and equipment; cash paid for acquisitions of businesses; and net cash proceeds from sales and retirements of property, plant and equipment. Changes in cash flow from financing activities are primarily due to issuances and repayments of long-term debt, cash capital contributions from UGI usually in conjunction with material business acquisitions, short-term borrowings, and distributions paid to UGI International's parent company.

Operating Activities:

Cash flow provided by operating activities was $130.2 million in the 2019 six-month period compared to cash flow provided by operating activities of $64.2 million in the 2018 six-month period. Cash flow from operating activities before changes in operating working capital was $176.4 million in the 2019 six-month period compared to $210.6 million in the 2018 six-month period. The lower cash flow from operating activities before changes in working capital principally reflects the lower operating results in the 2019 six-month period. Changes in operating working capital used operating cash flow of $46.2 million during the 2019 six-month period compared to a use of $146.4 million in the 2018 six-month period. The lower net cash used in the 2019 six-month period reflects, among other things, lower cash needed to fund changes in accounts receivable as the prior year included the effects of colder late winter weather on accounts receivable balances, and lower cash provided by changes in accounts payable due to the timing of cash payments for LPG purchases due to the colder late winter weather in the prior-year period.

Investing Activities:

Cash flow used by investing activities was $70.1 million in the 2019 six-month period compared to $148.4 million in the 2018 six-month period. Cash capital expenditures for property, plant and equipment totaled $49.9 million in the 2019 six-month period compared with $47.8 million in the 2018 six-month period. Net cash paid for acquisitions in the 2019 six-month period reflect three small size LPG acquisitions in Belgium and the United Kingdom. Net cash paid for acquisitions of businesses in the prior-year period of $106.9 million reflects the acquisition of UniverGas in Italy.

Financing Activities:

Cash flow used by financing activities was $46.5 million in the 2019 six-month period compared with $33.0 million in the 2018 six-month period. Changes in cash flow from financing activities are primarily due to issuances and repayments of long-term debt, changes in short-term borrowings, contributions of capital and distributions paid. On October 25, 2018, the Company, pursuant to a new five-year unsecured Senior Facilities Agreement, borrowed €300 million under a variable-rate term loan facility. Also on October 25, 2018, the Company issued in an underwritten private placement €350 million principal amount of the 3.25% Senior Notes due November 1, 2025. The net proceeds from these borrowings plus cash on hand were used principally to repay €540 million outstanding principal of UGI France's variable-rate term loan; €45.8 million of outstanding principal of Flaga's variable-rate term loan; and $49.9 million of outstanding principal of Flaga's U.S. dollar variable-rate term loan, plus accrued and unpaid interest.

Qualitative and Quantitative Disclosures About Market Risk

Our primary market risk exposures are (1) commodity price risk; (2) interest rate risk; and (3) foreign currency exchange rate risk. Although we use derivative financial and commodity instruments to reduce market price risk associated with forecasted transactions, we do not use derivative financial and commodity instruments for speculative or trading purposes.

Commodity Price Risk

The risk associated with fluctuations in the prices we pay for LPG is principally a result of market forces reflecting changes in supply and demand for LPG and other energy commodities. Our profitability is sensitive to changes in LPG supply costs. Increases in supply costs are generally passed on to customers. We may not, however, always be able to pass through product cost increases fully or on a timely basis, keep pace with such increases, particularly when product costs rise rapidly. In order to reduce the volatility of LPG market price risk, we use over-the-counter derivative commodity instruments and may from time to time enter into other derivative contracts to reduce market risk associated with a portion of our LPG purchases. Over-the-counter derivative commodity instruments used to economically hedge forecasted purchases of LPG are generally settled at expiration of the contract. In addition, certain of our businesses hedge a portion of our anticipated U.S. dollar-denominated LPG product purchases through the use of forward foreign currency exchange contracts as further described below. Our natural gas and electricity marketing businesses also use natural gas and electricity futures and forward contracts to economically hedge market risk associated with fixed-price sales and purchase contracts.

Interest Rate Risk

We have both fixed-rate and variable-rate debt. Changes in interest rates impact the cash flows of variable-rate debt but generally do not impact their fair value. Conversely, changes in interest rates impact the fair value of fixed-rate debt but do not impact their cash flows.

Our variable-rate debt at March 31, 2019, includes short-term borrowings and the 2018 Credit Facilities Agreement variable-rate term loan. These debt agreements have interest rates that are generally indexed to short-term market interest rates. UGI International has entered into pay-fixed, receive-variable interest rate swaps that generally fix the underlying euribor interest rate on the 2018 Credit Facilities Agreement term loan at 0.34% through October 2022. We have designated these interest rate swaps as cash flow hedges. At March 31, 2019, combined borrowings outstanding under variable-rate debt agreements, excluding UGI International's effectively fixed-rate debt, were not material.

Foreign Currency Exchange Rate Risk

Our primary currency exchange rate risk is associated with the U.S. dollar versus the euro and, to a lesser extent, the U.S. dollar versus the British pound sterling. The U.S. dollar value of our foreign currency denominated assets and liabilities will fluctuate with changes in the associated foreign currency exchange rates. From time to time, we use derivative instruments to hedge portions of our net investments in foreign subsidiaries. Gains or losses on these net investment hedges remain in AOCI until such foreign operations are sold or liquidated. With respect to our net investments in foreign (non-U.S. based) operations, a 10% decline in the value of the associated foreign currencies versus the U.S. dollar would reduce their aggregate net book value at March 31, 2019, by approximately $115 million, which amount would be reflected in other comprehensive income. In October 2018, in connection with entering into the 2018 Credit Facilities Agreement and the 3.25% Senior Notes, we designated the borrowings under these agreements as net investment hedges.

In addition, in order to reduce exposure to foreign exchange rate volatility related to our operations, through September 30, 2016, we entered into forward foreign currency exchange contracts to hedge a portion of anticipated U.S. dollar-denominated LPG product purchases primarily during the heating-season months of October through March.

In order to reduce the volatility in net income associated with our operations, principally as a result of changes in the U.S. dollar exchange rate between the euro and British pound sterling, we have entered into forward foreign currency exchange contracts.

Derivative Instrument Credit Risk

We are exposed to risk of loss in the event of nonperformance by our derivative instrument counterparties. Our derivative instrument counterparties principally comprise large energy companies and major U.S. and international financial institutions. We maintain credit policies with regard to our counterparties that we believe reduce overall credit risk. These policies include evaluating and monitoring our counterparties' financial condition, including their credit ratings, and entering into agreements with counterparties that govern credit limits or entering into netting agreements that allow for offsetting counterparty receivable and payable balances for certain financial transactions as deemed appropriate.

Certain of these derivative instrument agreements call for the posting of collateral by the counterparty or by the Company in the forms of letters of credit, parental guarantees or cash. Additionally, our commodity exchange-traded futures contracts generally require cash deposits in margin accounts. At March 31, 2019, restricted cash in brokerage accounts was not material. Although we have concentrations of credit risk associated with derivative instruments, the maximum amount of loss, based upon the gross fair values of the derivative instruments, we would incur if these counterparties failed to perform according to the terms of their contracts was not material at March 31, 2019.

The following table summarizes the fair values and changes in fair values due to market risks of unsettled derivative instrument assets (liabilities) held at March 31, 2019:

	Asset (Liability)	
(Millions of dollars)	Fair Value	Change in Fair Value
March 31, 2019:		
Commodity price risk (1)	$ (9.7)	$ (31.3)
Interest rate risk (2)	$ (3.2)	$ (0.9)
Foreign currency exchange rate risk (3)	$ 24.9	$ (28.1)

(1) Change in fair value represents a 10% adverse change in the market prices of LPG, natural gas and electricity.

(2) Change in fair value represents a 50 basis point adverse change in prevailing market rates.

(3) Change in fair value represents a 10% change in the value of the Euro and the British pound sterling versus the U.S. dollar.