November 2016 IHS Energy North American Natural Gas Monthly Briefing: Pay Me Now or Pay Me Later

List of tables

November 2016 IHS Energy North American Natural Gas Monthly Briefing: Pay Me Now or Pay Me Later.

November 2016 IHS Energy North American Natural Gas Monthly Briefing: Pay Me Now or Pay Me Later.

IHS Energy North American gas pricing points and new regions

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Source: IHS Energy
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Table 1

Henry Hub prices: History and outlook
(nominal US$/MMBtu)

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Excel tables: Blue figures are derived from historical data as available; IHS Energy projections in black font.
Sources: IHS Energy. Historical data derived from Intelligence Press
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Table 2

US lower-48 working gas in storage:
Injections and inventories, 2005–40

Injections (Withdrawals)
(MMcf/d)

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Excel tables are available on the Regional Power, Gas, Coal, and Renewables research area at connect.ihs.com.

Excel Tables: Blue figures are derived from historical data as available; IHS Energy projections in black font.

Figures from 2005 to August 2016 are derived from historical data as available; IHS Energy projections are for September 2016 forward.

Sources: IHS Energy; EIA historical data

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Table 3

Canada working gas in storage:
Injections and inventories, 2005–40

Injections (Withdrawals)
(MMcf/d)

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Excel tables are available on the Regional Power, Gas, Coal, and Renewables research area at connect.ihs.com.
Excel tables: Blue figures are derived from historical data as available; IHS Energy projections in black font.
Figures from 2005 to June 2016 are derived from historical data as available; IHS Energy projections are for July 2016 forward.
Sources: IHS Energy; British Columbia and Alberta provincial government data; TransGas; Canadian Enerdata Ltd
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Table 4

Basis differentials to Henry Hub
(nominal $/MMBtu)

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Note: See Table 9 for monthly data from January 2005 through December 2040.
Excel tables are available on the Regional Power, Gas, Coal, and Renewables research area at connect.ihs.com.
Excel tables: Blue figures are derived from historical data as available; IHS Energy projections in black font.
*Winter season average, November 2016 to March 2017.
**Columbia Gas Transmission pricing point.
***Simple average of Tennessee Zn 4 313 Pool and Tennessee Zn 4 Marcellus.
****Weighted average based on traded volumes at “TETCO M-3, Delivered” and “TETCO M-3, Receipts” pricing points.
Sources: IHS Energy; Intelligence Press historical data
November 2016 IHS Energy North American Natural Gas Monthly Briefing: Pay Me Now or Pay Me Later.

Table 5

AECO-NIT prices, 2005–40
(nominal Canadian dollars per gigajoule)

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Excel tables are available on the Regional Power, Gas, Coal, and Renewables research area at connect.ihs.com.

Sources: IHS Energy; Intelligence Press historical data

November 2016 IHS Energy North American Natural Gas Monthly Briefing: Pay Me Now or Pay Me Later.

Table 6

North America storage:
Injections and inventories, 2005–40

Injections (Withdrawals)
(MMcf/d)

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Excel tables are available on the Regional Power, Gas, Coal, and Renewables research area at connect.ihs.com.

Excel tables: Blue figures are derived from historical data as available; IHS Energy projections in black font.

Sources: IHS Energy; EIA historical data; British Columbia and Alberta provincial government data; TransGas; Canadian Enerdata Ltd

November 2016 IHS Energy North American Natural Gas Monthly Briefing: Pay Me Now or Pay Me Later.

Table 7

US lower-48 gas supply and demand balance, 2005–40
(Bcf/d)

Supply
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*Gas demand from the power sector includes gas consumed by electricity-only and combined heat and power (CHP) plants whose primary business is to sell electricity and/or heat to the public. Gas consumed by CHP plants that primarily serve the commercial or industrial sector is included in those sectors.

**Line pack demand is included in the pipeline fuel and lease/plant fuel category. Line pack is the volume of gas in a pipeline, which is a function of the diameter and length of pipe, the operating pressure, and the temperature of the natural gas in the pipeline. When temperatures drop, the gas volume (for the same mass) is reduced and introduction of new gas at a receipt point “packs” or adds pressure to the line. When temperatures rise, the gas volume rises and the removal of gas at a receipt point “unpacks” or lowers the pressure.

Notes: Some historical data are provided by the Energy Information Administration (EIA) and include significant volumes of unaccounted for gas.
Recent data (generally within one year) are frequently subject to revision by EIA.
In contrast, IHS Energy's outlook methodology projects a balanced gas market, in which there is no gas that is unaccounted for—all gas is accounted
for by an appropriate supply or demand component, based on IHS Energy estimates.
Excel tables are available on the Regional Power, Gas, Coal, and Renewables research area at connect.ihs.com.
Excel tables: Blue figures are derived from historical data as available; IHS Energy projections in black font.
Sources: IHS Energy; EIA historical data
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Table 8

Canada gas supply and demand balance, 2005–40
(Bcf/d)

Supply Demand
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Note: IHS Energy "Canadian supply and demand balance" (Table 8) and "Canada storage inventory and injections" (Table 3) include IHS Energy's estimate for all Canadian storage.
Canadian Enerdata does not cover all Canada storage; therefore, IHS Energy estimates total Canadian injections for forward projections of supply, demand, and price and uses Enerdata data for historical reference only.
Excel tables are available on the Regional Power, Gas, Coal, and Renewables research area at connect.ihs.com.
Excel tables: Blue figures are derived from historical data as available; IHS Energy projections in black font.
Sources: IHS Energy; British Columbia and Alberta provincial government data; TransGas; Canadian Enerdata Ltd
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Table 9

Basis differentials to Henry Hub, expanded, 2005–40
(nominal $/MMBtu)

Basis differentials

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Excel tables are available on the Regional Power, Gas, Coal, and Renewables research area at connect.ihs.com.
Excel tables: Blue figures are derived from historical data as available; IHS Energy projections in black font.
*Winter season average, November 2016 to March 2017.
Exchange rate outlook from IHS Economics.
NOTES
1) Columbia Gas Transmission pricing point.
2) Simple average of Tennessee Zn 4 313 Pool and Tennessee Zn 4 Marcellus.
3) Weighted average based on traded volumes at “TETCO M-3, Delivered” and “TETCO M-3, Receipts” pricing points.
4) Transco Zone 6 New York pricing point.
5) Simple average of Algonquin Citygates and Tennessee Zone 6 pricing points.
6) NGPL TxOk pricing point.
7) Simple average of Tennessee Zone 0 and and TETCO South Texas pricing points.
8) Simple average of ANR Oklahoma, NGPL Mid-Continent, and PEPL TxOk pricing points.

Sources: IHS Energy; Intelligence Press historical data
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Table 10

North American gas-directed drilling (nonassociated gas) by region

	Rig count (average)	Change from prior four-week period
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Sources: IHS Energy, Baker Hughes
Notes: Based on data available from Baker Hughes as of 4 November 2016.
Regions align with the IHS North American natural gas regional descriptions while basins/plays align with Baker Hughes definitions.
*For purposes of these tables, six months represents a period of 26 weeks.
**For purposes of these tables, three months represents a period of 12 weeks.
***For the rig counts tables, Texas is counted as part of the Gulf Coast.
****Totals and absolute and percentage differences may not reconcile fully because of rounding.
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Table 11

North American oil-directed drilling (associated gas) by region
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Sources: IHS Energy, Baker Hughes
Notes: Based on data available from Baker Hughes as of 4 November 2016.
Regions align with the IHS North American natural gas regional descriptions while basins/plays align with Baker Hughes definitions.
*For purposes of these tables, six months represents a period of 26 weeks.
**For purposes of these tables, three months represents a period of 12 weeks.
***For the rig counts tables, Texas is counted as part of the Gulf Coast.
****Totals and absolute and percentage differences may not reconcile fully because of rounding.
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Table 12

Comparative fuel prices and GDP assumptions, 2005–40
(nominal US$/MMBtu)

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*BAFA stands for Bundesamt für Wirtschaft und Ausfuhrkontrolle (The Federal Office for Economic Affairs and Export Control) and is the source for the German border price. It is IHS Energy's proxy for an oil-linked contract gas price in northwestern Europe and is calculated using oil and gas market prices, and exchange rates, using the same formula as in the IHS Energy outlook.

**2005–40 GDP assumptions from the IHS Economics 24 August 2016 long-term outlook.

Excel tables are available on the Regional Power, Gas, Coal, and Renewables research area at connect.ihs.com.

Excel tables: Blue figures are derived from historical data as available; IHS Energy projections in black font.

Sources: IHS Energy; Intelligence Press, ICE historical data. European prices from 14 October 2016 European Gas Long-Term Price Outlook. Long-term crude oil and petroleum product prices from 7 Nov Global Crude Oil Markets Long-Term Price Outlook: Fourth Quarter 2016 Update and 7 November North America Refining and Product Markets Long-Term Price and Margin Outlook -- Fourth Quarter 2016 Update.

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Table 13

Heating degree-days, 2005–15
(US deviation from 65 degrees Fahrenheit; Canada deviation from 18 degrees Celsius)

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Percent colder than normal (warmer than normal)
(US deviation from 65 degrees Fahrenheit;
Canada deviation from 18 degrees Celsius)

Excel tables are available on the Regional Power, Gas, Coal, and Renewables research area at connect.ihs.com.
Excel tables: Blue figures are derived from historical data as available; IHS Energy projections in black font based on 15-year normal 1996–2010.
Sources: IHS Energy; NOAA; Environment Canada
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Table 14

Cooling degree-days, 2005–15
(US deviation from 65 degrees Fahrenheit; Canada deviation from 18 degrees Celsius)

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Percent colder than normal (warmer than normal)
(US deviation from 65 degrees Fahrenheit;
Canada deviation from 18 degrees Celsius)

Excel tables are available on the Regional Power, Gas, Coal, and Renewables research area at connect.ihs.com.
Excel tables: Blue figures are derived from historical data as available; IHS Energy projections in black font based on 15-year normal 1996–2010.
Sources: IHS Energy; NOAA; Environment Canada
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Table 15

Gas flows into California, 2005–16
(MMcf/d)

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Notes:
Arizona Border North includes El Paso Natural Gas (EPNG), Transwestern, and Southern Trails pipelines, excluding EPNG flows on the Cadiz line 1903 to Ehrenberg.
Arizona Border South includes El Paso Natural Gas flows from Arizona to California at Ehrenberg, excluding Baja Norte flows.
Malin includes Gas Transmission Northwest (GTN) and Ruby pipeline flows, excluding flows into Tuscarora (for delivery to northern Nevada).
Kern River Gas Transmission flows in California defined as Goodsprings compressor station less Big Horn delivery point.
Excel tables are available on the Regional Power, Gas, Coal, and Renewables research area at connect.ihs.com.
Excel Tables: Blue figures are derived from historical data as available.
Source: IHS Energy and ABB Velocity Suite
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Table 16

Gas flows out of the Rocky Mountains, 2005–16
(MMcf/d)

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Notes:
California and Nevada: Flows westward at the Veyo compressor station on Kern River Gas Transmission Pipeline.
Northern California: Flows into the PG&E system on Ruby Pipeline.
Pacific Northwest: Flows northwestward at Kemmerer on Northwest Pipeline.
Desert Southwest: Flows southward into the San Juan Basin on Northwest Pipeline and TransColorado Pipeline.
East: Flows eastward on Colorado Interstate Gas, Cheyenne Plains, Southern Star Central Gas, Trailblazer, and Kinder Morgan pipelines.
North: Flows northward on Williston Basin Pipeline system (including Grasslands) into Montana.
Excel tables are available on the Regional Power, Gas, Coal, and Renewables research area at connect.ihs.com.
Excel Tables: Blue figures are derived from historical data as available.
Source: IHS Energy and ABB Velocity Suite
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Table 17

Gas flows out of western Canada, 2005–16
(MMcf/d)

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Excel tables are available on the Regional Power, Gas, Coal, and Renewables research area at connect.ihs.com.
Excel Tables: Blue figures are derived from historical data as available.
Source: IHS Energy and ABB Velocity Suite
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