Customer and Gas Demand Forecast

System Total Temperature-Adjusted Dth Sales and Throughput Comparison – 2013 IRP and Actual Results for 2013

On a weather-normalized basis, Questar Gas' actual natural gas sales during 2013 totaled 111.2 million Dth. A total of 110.0 million Dth was projected in last year's IRP. Average usage per system-wide General Service (GS) customer on an annual basis was 109.7 Dth, virtually unchanged from the 109.6 Dth average in 2012. The 2013 IRP had projected an average of 108.0 Dth. Temperature-adjusted system throughput (sales and transported volumes) was 176.4 million Dth in 2013 compared to last year's IRP forecast of 173.0 million Dth for the same period.

This year the rate of customer growth is expected to accelerate as the housing recovery continues to gain momentum. Average GS usage is expected to resume the long-term decline. Non-GS commercial and industrial consumption will continue to grow modestly, but electric generation will increase substantially in 2014 and 2015 with the Lake Side power plant expansion.

Please note that actual-to-forecast comparisons will be made on an IRP-year basis rather than a calendar-month basis beginning with the 2015 IRP.

Temperature-Adjusted Dth Sales and Throughput Summary – 2014 IRP

This year's forecast of temperature-adjusted system sales projects 112.2 million Dth in 2014 and steady growth to 127.2 million Dth in 2024 (see Exhibit 3.11). The increase in projected 2014 sales compared to 2013 sales results chiefly from a higher level of customer growth.

The forecast projects 1,207,397 system GS customers by the end of 2024, with annual Utah GS usage per customer at 98.5 Dth (see Exhibits 3.1 and 3.2) and annual Wyoming GS usage per customer at 117.3 Dth (Exhibit 3.5). The annual usage per Utah residential customer is projected to be 73.6 Dth (Exhibit 3.3) at the end of 2024, and average annual usage per Utah GS commercial customer is expected to be 438.7 Dth by the same time (Exhibit 3.4). The annual usage per Wyoming residential customer is projected to be at 76.0 Dth by the end of 2024 (Exhibit 3.6), and annual usage per Wyoming commercial customer is projected to be at 444.8 Dth (Exhibit 3.7) for the same period.

System throughput in this year's forecast is expected to increase from 195.0 million Dth in 2014 to 218.0 million Dth in 2024 (Exhibit 3.10). The current forecast reflects anticipated throughput for existing electric generation customers, including the expansion of the Lake Side power plant.

Residential Usage and Customer Additions

Utah

Utah residential GS customer additions in 2013 totaled 14,059, a notable increase over the 11,133 additions in 2012 and the 8,772 additions in 2011. The rate of additions is expected to increase considerably as the pace of the housing recovery continues to accelerate. The residential customer total is projected to increase by 15,600 in 2014 and by 19,200 in 2015. The rate of annual additions is expected to return to pre-recession levels of over 20,000 in 2016.

Actual temperature-adjusted residential usage per customer for the twelve months ending December 2013 was 82.79 Dth, virtually unchanged from the 82.78 Dth average of 2012. An average of 81.81 Dth is projected for 2014 with the overall downward trend in average consumption continuing through 2024 as the pace of new dwelling construction increases and energy efficiency programs continue to incentivize greater efficiency (see Exhibit 3.3). Note that the historical and forecasted usage averages are weather-normalized to a 30-year baseline period ending December 31, 2010. This 30-year period was updated from the prior period ending December 31, 2007 as part of the general rate case filed in July 2013, Docket No. 13-057-05.

Both statistical and deterministic end-use modeling approaches are used to analyze and forecast residential gas demand. The end-use model estimates consumption for space heat, water heating, and other gas appliance use based on appliance efficiency and housing characteristics. The model incorporates estimates of housing characteristics, natural gas appliance saturation by efficiency rating throughout the residential customer base, customer growth projections, and projected changes in economic variables that affect use per customer such as the average residential gas bill and household income. Effects on use per customer from the Company's energy efficiency programs based on past and projected participation have also been addressed in the model. Statistical time series analysis, both univariate and multivariate, are also employed to estimate systematic variation of demand over time based on history and the effects of commodity price and long-term trend on residential demand. The end-use modeling is applied with Microsoft Excel 2010, and the statistical time series modeling is done with SAS Enterprise Time Series 9.3.

On June 4, 2014, Questar Gas announced its proposed acquisition of the Eagle Mountain municipal natural gas system. The Company expects to complete the purchase by the end of 2014. Eagle Mountain is in Utah County, west of Saratoga Springs, and currently has about 6,000 residential gas customers.

Wyoming

In Wyoming 213 residential GS customers were added in 2013, a considerable increase over the 57 additions realized in 2012. An improving housing market in the service area leads to a forecast of about 260 additions in 2014 and 350 in 2015. Additions are expected to reach a pre-recession level of over 400 by 2016.

The average annual usage per residential customer in Wyoming was 88.61 Dth, a decrease of 2.5 Dth from the year prior. As in Utah, a general trend toward greater housing and appliance efficiency accelerated by participation in the energy efficiency programs is expected to perpetuate the general long-term decline in usage per customer through the forecasted period. Average usage is projected at 87.7 in 2014 and is expected to continue to decline through 2024 (see Exhibit 3.6).

Small Commercial Usage and Customer Additions

Utah

Temperature-adjusted Utah GS commercial usage per customer for the twelve months ended December 2013 was 466.43 Dth. This year's forecast reflects a continuation of a general downward trend with average annual consumption projected at 463.97 Dth at the end of 2014 and 460.07 Dth at the end of 2015 (see Exhibit 3.4). As with the Utah residential usage averages, these historical and forecasted averages are weather-normalized to the 30-year baseline period ending December 31, 2010."

The level of Utah GS commercial customer additions is projected to increase along with the residential level. Approximately 1,170 customer additions are forecasted in 2014 and about 1,300 in 2015. The level of additions will exceed 1,500 by 2017.

Wyoming

Average usage among commercial GS customers in Wyoming for the twelve months ending December 2013 was 481.15 Dth, a decline of 5.09 Dth from 2012. Average usage is projected at 478.94 Dth at the end of 2014, and will continue its general decline through the forecast period.

The forecast projects 40 additions in 2014 and a gradual increase to roughly 60 additions in 2016. As with Utah, these projections are driven primarily by residential customer increases.

Large Commercial, Industrial and Electric Generation Gas Demand

As shown in Exhibit 3.8, annual gas demand among large commercial and industrial customers is steady with gradual increase. Demand is expected to grow from 48.8 million Dth in 2014 to 51.6 million Dth in 2024.

Annual demand among electric generation customers will increase substantially in 2014 with the completion of the Lake Side power plant expansion. Demand is projected to reach approximately 43 million Dth in 2014, increasing to about 49 million Dth annually.

Firm Customer Design-Day Gas Demand

The design-day peak demand forecast is based on a one-in-twenty year (five occurrences in 100 years) weather event. More specifically, the design-day firm customer peak demand projection is based on a theoretical day when the mean temperature is –5 degrees Fahrenheit at the Salt Lake Airport weather station and corresponding design-day temperatures are seen coincidentally across the Company's service territory.

Wind speed, temperature, and prior day demand are significant factors in the prediction of daily gas send-out during the winter heating season. Note that the design-day demand projection distinguishes between firm sales and firm transportation demand for gas supply and system capacity planning purposes.

As shown in Exhibit 3.9, the firm sales and firm transportation for the years 2010-2014 show send out volumes for the coldest day in each of those five heating seasons. Design-day conditions did not occur during those time periods. The firm sales design-day gas supply projection for the 2014/2015 heating season is 1.286 million Dth and grows to 1.452 million Dth by the winter of 2023/2024.

Periods of Interruption

The Company estimates that under peak conditions 58,000 Dth could be curtailed across the system, 50,000 Dth of interruptible transportation and 8,000 Dth of interruptible sales.

The Utah Questar Gas Tariff states, "At times there may be a need for interruption on an isolated portion of the Company's system." In 2009 the Company performed an analysis to determine if isolation of certain system segments could alleviate pressure concerns while limiting the impact on customers that are neither affected by nor can affect pressures on that segment. The Company determined that it could effectively manage interruptions through interruption zones. The Company reviews all interruption zones on an annual basis.

Source Data

Where available, the Company has obtained economic, demographic and other data from state and local sources such as the University of Utah (Bureau of Economic and Business Research) and the Utah Governor's Office of Planning and Budget. When current local data were not available, the Company used nationally recognized sources such as the U.S. Energy Information Administration, the U.S. Census Bureau and IHS Global Insight.

The Utah and Wyoming Economic Outlook

Below is a review of recent history and the current economic outlook:

Summary of Utah Economy
Annual Percentage Change

Description	2008 – 2013	2013 - 2014	2013 - 2018	2013 – 2021
Population	1.7%	1.6%	1.7%	1.8%
Personal Income	2.9%	4.8%	6.1%	5.9%
Construction Employment	-4.1%	9.1%	10.6%	7.6%
Manufacturing Employment	-1.1%	3.7%	1.9%	1.2%
Non-Manufacturing Employment	0.8%	2.3%	2.8%	2.4%
Total Employment	0.6%	2.5%	2.7%	2.3%
Average Housing Starts	10,993	16,210	22,558	24,066

Source: Based on spring, 2014 long-term forecasts by IHS Global Insight.

Summary of Wyoming Economy
Annual Percentage Change

Description	2008 – 2013	2013 - 2014	2013 - 2018	2013 – 2021
Population	1.3%	1.3%	0.9%	0.7%
Personal Income	2.1%	2.9%	4.8%	4.6%
Construction Employment	-5.1%	0.8%	3.9%	2.4%
Manufacturing Employment	-0.9%	1.6%	0.8%	0.5%
Non-Manufacturing Employment	-0.4%	1.6%	1.5%	1.2%
Total Employment	-0.5%	1.6%	1.5%	1.2%
Average Housing Starts	2157	2015	2275	2252

Source: Based on spring, 2014 long-term forecasts by IHS Global Insight.

The U.S. Economic Outlook

Below is a review of recent history and the consensus economic outlook:

U.S. MACROECONOMIC FORECAST
Source: IHS GLOBAL INSIGHT Review of the U.S. Economy – April, 2014

						Forecast	
	2008	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Real Gross Domestic Product 1/	-0.3	-2.8	2.5	1.8	2.8	1.9	2.4
GDP Price Index - Chain Wt. 1/	1.9	0.8	1.2	2.0	1.7	1.4	1.9
CPIU 1/	3.8	-0.3	1.6	3.1	2.1	1.5	1.8
Real Disposable Income 1/	1.5	-0.5	1.1	2.4	2.0	0.7	2.1
Pre-tax Profits 1/	-16.0	8.4	25.0	7.9	7.0	4.6	8.9
Unemployment Rate 3/	5.8	9.3	9.6	8.9	8.1	7.4	6.5
Housing Starts 4/	0.9	0.6	0.6	0.6	0.8	0.9	1.0
3-month Treasury Bills 3/	1.4	0.2	0.1	0.1	0.1	0.1	0.1
30-Year Fixed Mortgage Rate 3/	6.1	5.1	4.7	4.5	3.7	4.0	4.6
Trade Balance 2/	-681	-382	-449	-458	-440	-379	-321
Vehicle Sales – Total 4/	13.2	10.4	11.6	12.7	14.4	15.5	16.1
Real Non-Res Fixed Investment 1/	-0.7	-15.6	2.5	7.6	7.3	2.7	5.5
Industrial Production 1/	-3.4	-11.3	5.7	3.3	3.8	2.9	3.1

1/ Annual Rate of Change (Percent)
2/ Billions of 1996 chained dollars
3/ Percent
4/ Million Units

Long-term U.S. Economic Outlook
Source: IHS GLOBAL INSIGHT Review of the U.S. Economy – April, 2014

	2015	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Real Gross Domestic Product 1/	3.0	3.4	3.2	2.8	2.7	2.6	2.4
GDP Price Index - Chain Wt. 1/	1.8	1.6	1.7	1.8	1.7	1.7	1.8
CPIU 1/	1.6	1.5	1.9	2.2	2.0	1.9	2.0
Real Disposable Income 1/	3.6	3.9	3.9	3.2	2.7	2.4	2.2
Pre-tax Profits 1/	4.4	3.0	0.7	2.0	3.1	2.9	4.8
Unemployment Rate 3/	6.1	5.6	5.3	5.1	5.0	5.0	5.0
Housing Starts 4/	1.4	1.6	1.6	1.6	1.6	1.6	1.6
3-month Treasury Bills 3/	0.4	2.2	3.6	3.7	3.7	3.7	3.7
30-Year Fixed Mortgage Rate 3/	5.0	5.8	6.5	6.7	6.7	6.7	6.7
Trade Balance 2/	-373	-438	-462	-455	-424	-381	-339
Vehicle Sales - Total 4/	16.4	16.7	16.7	16.5	16.5	16.4	16.4
Real Non-Res Fixed Investment 1/	6.5	6.8	6.1	4.5	3.2	2.7	3.2
Industrial Production 1/	3.4	3.3	2.9	2.4	2.5	2.6	2.4

1/ Annual Rate of Change (Percent)
2/ Billions of 1996 chained dollars
3/ Percent
4/ Million Units

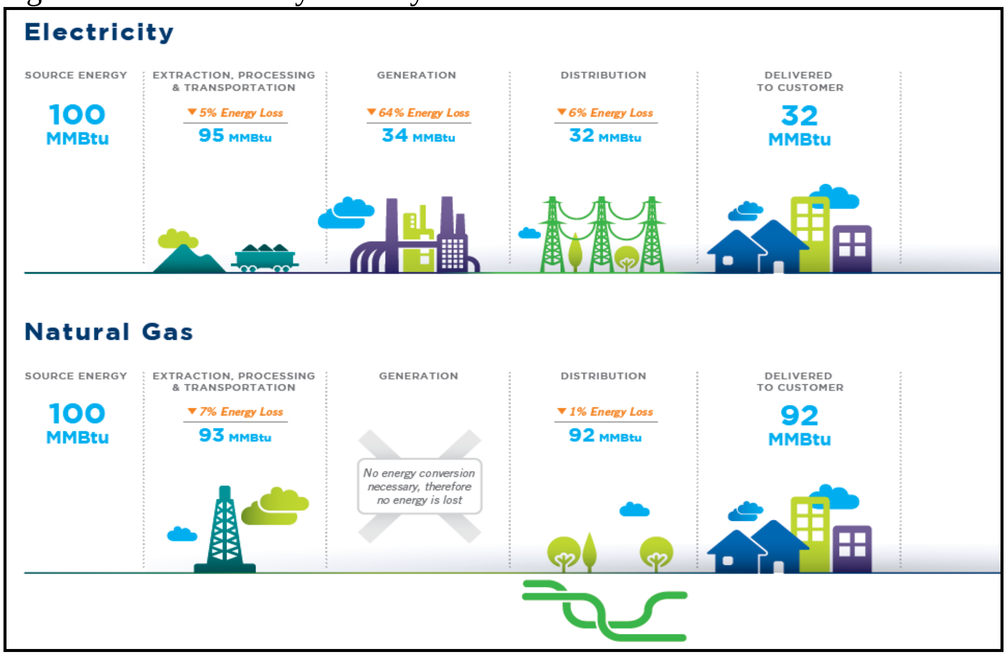
Alternatives to Natural Gas

Questar Gas customers have alternatives to using natural gas for virtually every application. Some energy applications are dominated by another fuel (cooking, clothes drying) while others are dominated by natural gas (space and water heat). A material shift in customer preference would affect future demand and load profiles. While considering alternatives one must consider full fuel-cycle efficiency.

Full Fuel-Cycle Efficiency

Natural gas remains the most efficient and least expensive form of energy for use in space heating, water heating, cooking and clothes drying applications. This is particularly evident when natural gas is compared to electricity through a full fuel cycle analysis. Full fuel cycle analysis looks at the journey of different forms of energy, and their associated losses, from the point of production to the point at which the energy is received by the customer. Figure 3.1 shows that for each 100 million Btu's of natural gas extracted, 92 million Btu's are delivered to the customer for direct use. Conversely, for each 100 million Btu's of other energy sources extracted for conversion to electricity, 32 million Btu's are ultimately delivered to the customer for direct use. In other words, converting any fuel source into electricity to power comparable electric end-use products only maintains 32% of usable energy.

Figure 3.1 – Full fuel cycle analysis



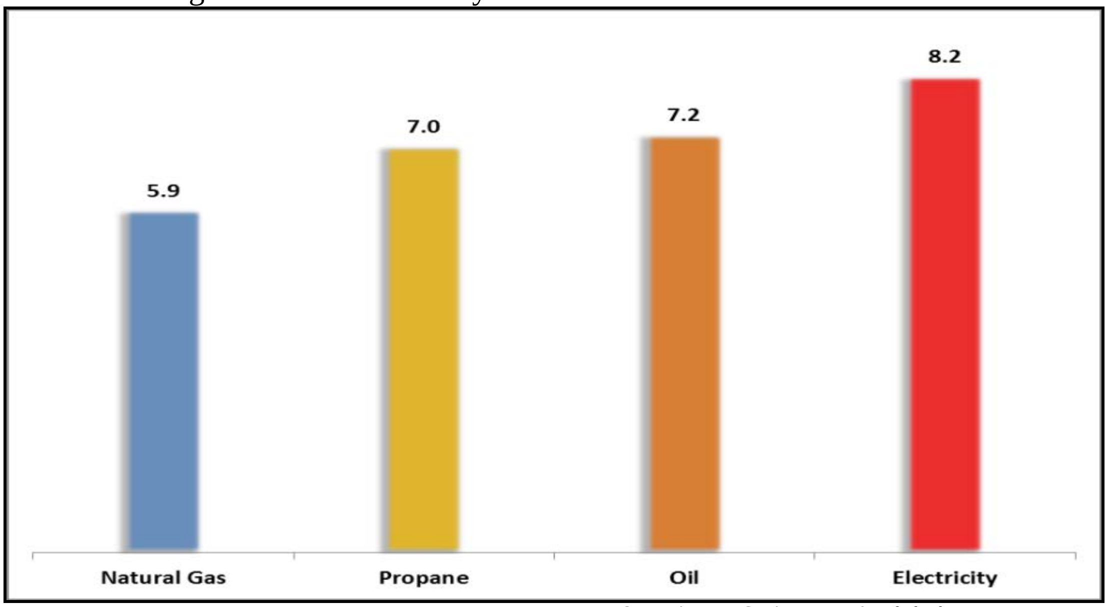
Source: American Gas Association 2014 Playbook

A recent American Gas Association (AGA) study focused on the cost-to-operate differential between natural gas and electric appliances. The study used 2014 average utility rates and compared natural gas and electric water heaters of similar efficiency and size. The findings of the study show that a .62 energy factor (EF) natural gas water heater is nearly $300 cheaper to operate annually than an electric storage water heater ranging between .945 and .951 EF. Additionally, the study found that the direct use of natural gas in typical home appliances resulted in 28% less energy consumption than a similar home with all electric appliances.

The lower energy consumption and fuel-cycle efficiency of natural gas not only equate to lower customer bills but also significantly lower greenhouse gas emissions.

Figure 3.2 shows the full fuel cycle greenhouse gas emissions (in metric tons) of a typical U.S. household generated from various forms of energy.

Figure 3.2 – Full Fuel Cycle Greenhouse Gas Emissions



Source: American Gas Association 2014 Playbook

Solar

It is not anticipated that solar space or water heat will have a significant impact in the Company's service territory. The large investment required does not allow for an attractive payback, thereby limiting the potential.

Air-Source Heat Pumps

Air-source heat pumps are becoming more competitive. There are significant risks to the Company and its customers if these devices proliferate. The loads placed on the system will be substantially lower than a similar customer with conventional natural gas space and water heat, yet the investment to serve the customer will not be any lower. Most air-source heat pumps require a back-up heat source for those times when the outside air temperature is too low for the heat pump to meet the load. Since natural gas is the most economic heat source it is anticipated that natural gas will be selected by most consumers for the back-up role.

The first risk arises because these customers will increase the peak demand on the system. This risk is especially troubling because it will be very difficult to estimate the additional peak requirement caused by these customers. There are only a handful of days each winter when temperatures are too low for these units to operate efficiently. As a result the potential for peak load attributable to these units will not be evident in the load data used to predict peak requirements.

The second risk is more significant for other customers. The cost to serve customers with air-source heat pumps is essentially identical to the cost to serve a similarly situated traditional customer. With the current rate design, the Company will only recover a portion of the cost to serve from air-source heat pump customers. The direct effect of this under collection will be that other customers will be required to make up the difference. This may lead to a material cross subsidy between traditional customers and the air-source heat pump customers. The Company is monitoring the penetration of air-source heat pumps.

Ground-Source Heat Pumps

While ground-source heat pumps may have similar risks to the air-source heat pumps, the potential for significant penetration is very low. There is a large capital investment required for these installations. Commercial customers with adequate acreage have begun adopting this technology. The decision to install ground-source heat pump technology is often driven by considerations beyond pure economics.

Gas Lost and Unaccounted For

The Company calculates the portion of gas that is lost or unaccounted for using a moving three-year average of annual proportions that are derived by dividing the total of system receipts for the twelve-month period ending June 30 into the sum of Company use gas (accounts 810 and 812), loss from tear-outs, and volumes that are unaccounted for during the same period. The updated average is 0.53% and reflects meter-level compensation for temperature and elevation in the Utah service territory that began in August of 2010 and in the Wyoming service territory in October of 2012.

The current calculation for the most recent 3 years is included in the following table.

QGC Estimated Company Use and Lost-and-Unaccounted-For-Gas Calculation

Three Year Rolling Average

Year	QGC Customer Sales	QGC Customer Transport.	Total Receipts		QGC Sales & Transportation	QGC Use Acct. 810&812	QGC Loss Due To Tearouts	QGC Loss & Unaccounted For Gas	Total Sales, Transport, Company Usage and L&U
2010-2011	115,784,799	54,875,429	170,660,228		169,816,873	236,702	16,335	590,318	170,660,228
2011-2012	107,765,322	57,613,566	165,378,888		164,193,992	188,196	23,351	973,349	165,378,888
2012-2013	112,150,529	61,127,867	173,278,396		172,597,050	233,285	23,882	424,178	173,278,396
Total	335,700,650	173,616,862	509,317,512		506,607,914	658,183	63,568	1,987,846	509,317,512
	Lost-&-Unaccounted-For-Gas %		0.390%		Company Use and Lost-&-Unaccounted-For-Gas %			0.532%	

Questar Gas has implemented the following activities to minimize the volume of gas that is lost or unaccounted for:

- **Temperature and Elevation Compensation**. In August of 2010 the Company began compensating for meter-level temperature and elevation in the computation of Dth in its Utah Service Territory as ordered by the Utah Public Service Commission. This same compensation began in the

Wyoming service territory in October of 2012. The effect has been a reduction in the volume of gas that is unaccounted for.

- **Maintenance work on high pressure feeder lines.** When scheduled maintenance work requires gas in a feeder line to be released to the atmosphere, the line is allowed to feed down to the lowest possible pressure before the gas is completely released. This minimizes the amount of gas that is released to the atmosphere. The pressure is recorded to allow the amount of gas that is released to be calculated.
- **Infrastructure replacement program.** This program replaces aging infrastructure to ensure the safety and reliability of the distribution system.
- **Hot tapping.** The Company utilizes hot taps when making branch connections on the feeder line system to eliminate the need to blow down sections of the feeder line. The hot tapping process allows this work to be completed while the line remains in service.
- **Excess flow valves.** The Company installs an excess flow valve on any new or replaced service line delivering up to 1,000 cubic feet per hour. The excess flow valve is designed to limit the amount of gas lost in the event of the service line being severed (i.e. third party damage).
- **Leak survey and repair.** The Company regularly conducts leak surveys and performs system maintenance as required. Additional leak surveys are conducted in high consequence areas or areas with aging infrastructure.
- **Response time to leak calls.** The Company continues evaluating ways to reduce response time to gas leak calls through efficiencies in how employees are dispatched to these gas leaks. A GPS system to allow dispatchers the ability to dispatch personnel based on their geographic location with respect to the leak is currently being implemented.
- **Leak detection equipment.** The Company utilizes advanced technologies for locating and identifying leaks. Examples include the RMLD (remote methane leak detection) and the Rover (gas detector).
- **Research and Development.** The Company participated in a Gas Technology Institute study to identify factors for fugitive emissions from various types of facilities.

Forecast Exhibits

The following charts summarize the 11-year customer and gas demand forecast. All charts contain temperature-adjusted data.