



**Questar Corporation**  
**The Carbon Disclosure Project (CDP6)**  
**Response to GHG Emissions Questionnaire**

Executive Summary

Given that natural gas is the cleanest, currently-available, dispatchable energy source, natural gas will play a central role in future policies that seek to address climate change and the environment. Questar Corporation (“Questar”) believes that policies to address climate change should be grounded in proven science and should create more benefits than costs to people and the planet. This means that climate change policies will necessarily compete with other environmental and economic policies, and should be judged on their merits. Given the current state of energy technology, and our understanding of the impacts various policy prescriptions may have on climate change, Questar believes that a cautious approach should be taken. For Questar’s operations, this means working to reduce overall emissions, including greenhouse gases, in a way that does not significantly raise prices for consumers or costs for Questar.

Climate change poses both business risks and opportunities for Questar for several important reasons. Natural gas is Questar’s core business and its mission is to develop, produce, gather, process, store, transport and distribute natural gas in an environmentally-responsible manner. Questar is one of America’s fastest growing producers of clean-burning natural gas, an important bridge fuel to a lower-carbon future. Questar has extensive natural gas producing properties and associated natural gas gathering and processing facilities located in the Rocky Mountain and Midcontinent regions of the United States. It also owns and operates a regional natural gas transmission pipeline system and a natural gas distribution system in the Rocky Mountain region.

On an energy-equivalent basis, natural gas emits about half the CO<sub>2</sub> of coal when used as a fuel and about a third less CO<sub>2</sub> than other fuels such as diesel or gasoline. In addition, natural gas combustion is 93% energy efficient as compared to 60% energy efficient for coal combustion. A report from the United Nations Intergovernmental Panel on Climate Change (IPCC) identified fuel switching from coal to natural gas as a key mitigation element for achieving greenhouse gas (GHG) emission reduction targets.<sup>1</sup>

As for the role of natural gas in a carbon-constrained world, two scenarios seem likely. First, natural gas supply needs to grow because demand for electric power will grow. The Energy Information Administration forecasts that even with higher prices, total U.S. electricity consumption will increase 43% by 2030. Worldwide demand for electricity will increase by even more over the same time period. More natural gas will have to be developed to meet this growing demand. Second, CO<sub>2</sub> regulation (whether a direct tax or

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<sup>1</sup> Intergovernmental Panel on Climate Change, Workgroup 3 Report, *Mitigation of Climate Change*, 2007.

cap-and-trade) is likely to result in natural gas capturing market share from coal. Forty percent of America's man-made CO<sub>2</sub> emissions are the consequence of electricity generation—half of this from coal. When the price of carbon gets factored in, gas becomes competitive with coal. The inescapable conclusion is that greater use of natural gas has to be part of any responsible climate-friendly energy policy. Questar's challenge is to take advantage of this unique opportunity to grow its business and help the environment. Its greatest risk is that other energy sources may capture market share from natural gas due to lack of public land access necessary to reach critical natural gas reserves, technological breakthroughs for new energy sources, and/or government policies that subsidize other energy development to the detriment of natural gas.

With a strong focus on environmental stewardship, Questar has undertaken several initiatives to inventory and minimize its carbon footprint (approximately 2.5 million metric tonnes of CO<sub>2</sub>e annually) and its carbon intensity as it continues to grow and expand its natural gas operations. For example, Questar's exploration and production business, where technologically feasible and commercially reasonable, has instituted best management practices to recover process losses of methane, a potent greenhouse gas, and reduce CO<sub>2</sub> emissions through flareless or "green completions" of wells; installed wellhead automation and high-efficiency compression; and constructed liquids-gathering systems to eliminate condensate tanks and reduce vehicle traffic. In addition, the company participates in the Environmental Protection Agency's (EPA) Natural Gas STAR program which promotes the implementation of cost-effective technologies and practices to reduce emissions of methane. Questar's natural gas distribution business has launched a demand-side energy conservation pilot program to encourage residential customers to conserve natural gas through a variety of incentive programs. Similarly, in the workplace, the company assists its employees in proactively conserving energy through mass transportation subsidy programs. Questar, with the state of Utah, also supports the second largest compressed natural gas (CNG) supply infrastructure in the U.S. for fueling natural gas vehicles.

## 1. Climate Change Risks and Opportunities

### a. Risks

#### ▶ Regulatory Risks

Federal and state courts and administrative agencies are considering the scope and scale of climate change regulation under various laws pertaining to the environment, energy use and development, and greenhouse gas emissions. Questar's ability to access and develop new natural gas reserves may be restricted by climate change regulation. The recent designation of the polar bear by the U.S. Department of the Interior as an endangered species presents risks that oil and gas development may be curtailed or eliminated to protect endangered species due to climate change. There are numerous bills pending in Congress that would regulate greenhouse gas emissions through a cap-and-trade system under which emitters would be required to buy allowances for offsets of emissions of greenhouse gases. In addition, several of the states in which Questar operates are considering various greenhouse gas registration and reduction programs. Carbon dioxide regulation could increase the price of natural gas, restrict access to or the

use of natural gas, and/or reduce natural gas demand. Federal, state and local governments may also pass laws mandating the use of alternative energy sources, such as wind power and solar energy, which may reduce demand for natural gas.

Questar acknowledges that such future regulation of GHG emissions in the U.S. is likely, and that such regulation may increase risks and costs for reporting, administering and operating as well as financial obligations for a carbon tax or cap-and-trade program.

With no international operations, Questar does not face an immediate risk of regulations in countries that have ratified the Kyoto Protocol.

#### ▶ Physical Risks

Questar's operational network is concentrated in the inland areas of the Mid-Continent region (Oklahoma, northern Louisiana, western Arkansas and northern and eastern Texas) and the West (Utah, Wyoming, western Colorado, New Mexico and Arizona). Therefore, climate events in coastal regions would not be expected to cause significant direct impacts on Questar's operations. Also, Questar has in force emergency response and business continuity plans and insurance programs to address potential risks posed by severe weather events that may occur in operational locations. Of course, climate change and weather patterns will likely affect the balance of heating and cooling days for its distribution business as well as the demand for and the price of natural gas. According to the IPCC's Fourth Assessment Report – given the relatively minor changes in climate that are predicted to occur over a relatively long period (by 2100) – Questar will likely face few material risk factors to its business. The IPCC does predict a gradual warming of global mean temperatures, with increased warming in the higher latitudes during winter nights. Questar has implemented a hedging policy that partially protects it from exposure to natural gas price volatility resulting from changing weather patterns.

#### ▶ General Risks

Another potential risk related to climate change is a shift in public perceptions and preferences as more attention is focused on the carbon intensity of goods and services. Although natural gas is a lower carbon alternative to coal, fuel oil and gasoline, the public opinion of natural gas as a clean energy source may shift as renewable energy becomes more and more prevalent. This shift will likely be minor in the short term, given the limited capabilities of today's renewable energy technologies. However, renewable energy alone cannot meet the growing global energy demand.

#### ▶ Risk Management

Questar is voluntarily and proactively undertaking several strategies to anticipate and minimize climate change risks, including preparation of a detailed GHG inventory of its operations, and participation in the voluntary EPA Natural Gas STAR program where reporting of natural gas conservation initiatives is designed to ensure credit for early action in future regulatory programs. Questar, as described in more detail below, is also creating and pursuing opportunities in the areas of GHG reduction processes, technology and energy efficiency.

- ▶ Financial and Business Implications

Due to the uncertainty about the nature and scope of any GHG emissions regulation, it is not possible to accurately predict the financial or operational risks to Questar from such regulation.

- b. Opportunities

- ▶ Regulatory Opportunities

Questar will have attractive opportunities arising from regulations that select or favor natural gas as a more economical, clean-burning abundant energy source than other sources. For example, many state public service commissions and other government agencies are selecting natural gas for power generation instead of coal. Questar participates in trade groups and other forums to encourage economically-sound climate change regulations.

- ▶ Physical Opportunities

Questar also recognizes opportunities to reduce the overall emissions of its operations, in a commercially reasonable and cost-effective manner, by improving energy efficiency and methane recovery through nationwide programs such as EPA's Natural Gas STAR program, and state or local programs. Questar continues to seek opportunities to reduce its emissions and educate its employees, customers, equipment suppliers and other service suppliers to promote energy efficiency. Questar's natural gas exploration and production business is expanding rapidly and it is committed to maintaining or reducing its emissions intensity per unit of production as it continues to grow, be it from GHG emissions or non-GHG emissions that are pollutants. Questar also owns or has rights to numerous depleted underground hydrocarbon reservoirs, wellbores, surface facilities and pipeline infrastructure that may be candidates to facilitate the sequestration of greenhouse gases from coal-fired power plants located within its regions.

- ▶ General Opportunities

As Questar monitors the scientific research and understanding on climate change, it acknowledges the likelihood of near-term mandatory requirements in the U.S. to address climate change. Questar is taking an active role in preparing for a carbon-constrained future with the associated risks and opportunities that may arise.

- ▶ Maximizing Opportunities

Questar's strategy to address GHG emissions is based on a long-standing commitment and reputation for excellence in environmental stewardship. The strategy is founded on a commitment to:

- Be proactive in protecting the environment. Questar has been commended for its environmental initiatives by the EPA and others as

the recipient of several environmental stewardship awards. Efforts to reduce its emission intensity overall, while improving its operational efficiency, are part of Questar's strategy to address climate change.

- Produce a clean fuel alternative to coal. Questar is committed to exploring for, developing, gathering, processing, transmitting, storing, distributing and marketing natural gas to meet future demand for clean fuel, while maintaining its high standards for environmental integrity.
- Maintain and manage its GHG emissions footprint. Questar developed its first corporate-wide GHG emissions inventory for calendar year 2005, based on internationally recognized protocols. The inventory provides a sound foundation for identifying emission-reduction opportunities. Questar will update its GHG inventory on an ongoing basis as an integral part of its climate change policy and plan.
- Adopt energy efficiency and methane recovery initiatives where technologically feasible and commercially reasonable. With a projection for continued growth, Questar understands the importance of efficient operations with minimal product losses and internal consumption. Questar considers energy efficiency and emission controls a top priority in all of its capital expenditures.
- Monitor the development of CO<sub>2</sub> sequestration technology and carbon capture and storage opportunities. With an extensive holding and regional diversity of depleted hydrocarbon reservoirs and pipeline infrastructure, Questar is uniquely positioned with geographic proximity to major CO<sub>2</sub> producers to provide future CO<sub>2</sub> transportation and sequestration services. In addition, future enhanced oil recovery projects may also provide Questar opportunities for CO<sub>2</sub> sequestration.
- Promote customer energy efficiency and conservation programs through innovative rate structures designed to remove financial penalties to the company for encouraging customers to reduce energy consumption. Part of Questar's strategy is to encourage conservation, not only in its operations and workplaces, but in customers' homes and offices as well.
- Work with industry trade organizations and regulators to help shape future GHG policies and programs. Questar's climate change strategy includes engagement with the Independent Petroleum Association of America (IPAA), the Independent Petroleum Association of the Mountain States (IPAMS), the Colorado Oil and Gas Association (COGA), the Interstate Natural Gas Association of America (INGAA), the American Gas Association (AGA), the American Exploration and Production Council (AXPC), and the Utah Blue Ribbon Advisory Council on Climate Change (BRAC) and other forums to help shape a future energy policy that encourages energy conservation and natural gas development.
- Communicate to employees, customers and other stakeholders Questar's GHG goals, execution plans and progress.
- Encourage employees to proactively conserve energy through mass transportation subsidies and assessment of private parking fees.

► Financial and Business Implications

As a producer, transporter and supplier of natural gas, the least carbon-intensive fossil fuel, Questar believes that there will be significant business opportunities as demand for natural gas expands. For the foreseeable future, natural gas is anticipated to play a significant role in the transition to a lower-carbon economy. Questar is strategically positioned with significant reserves of natural gas, processing facilities and extensive pipeline systems in regions of the U.S. that are largely dominated by coal-fired electric power generation (Utah, Colorado and Wyoming). Demand for natural gas as a transition fuel is expected to grow as future requirements to curtail GHG emissions from power generation are realized. These factors provide business opportunities for Questar and competitive advantages relative to other companies with a higher-carbon energy portfolio, such as electric utilities.

2. Greenhouse Gas (GHG) Emissions Accounting

a. Accounting Parameters

Questar's 2006 GHG emissions inventory is based on industry best practice accounting guidelines, with the WRI/WBCSD GHG Corporate Accounting Protocol<sup>2</sup> as the foundation. Methodologies specific to natural gas operations are based on the American Petroleum Association (API) Compendium,<sup>3</sup> International Petroleum Industry Environmental Conservation Association (IPIECA)/API GHG reporting guidelines,<sup>4</sup> and INGAA GHG accounting guidelines.<sup>5</sup> For emission sources common among industry sectors, such as stationary combustion, mobile source combustion, and electricity usage, Questar's 2006 inventory uses emission factors from The Climate Registry's recently published General Reporting Protocol.<sup>6</sup> Questar has accounted for GHG emissions from all material facets of its natural gas business for 2006, (including any natural gas liquids and associated oil production). Questar's estimates approximately 2.5 million metric tonnes of CO<sub>2</sub> equivalent emissions on an operational control basis.<sup>7</sup> Questar's entity-wide emissions profile is similar to other natural gas industry peers on a carbon intensity basis. Questar's 2006 GHG emissions inventory includes both direct emissions from its operations and vehicle fleet (Scope 1 emissions) and indirect electricity purchases (Scope

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<sup>2</sup> World Resources Institute (WRI)/World Business Council for Sustainable Development (WBCSD), *The Greenhouse Gas Protocol: a Corporate Accounting and Reporting Standard*, Revised Edition, 2003.

<sup>3</sup> American Petroleum Institute, *Compendium of Greenhouse Gas Emissions Estimation Methods for the Oil and Gas Industry*, 2004.

<sup>4</sup> IPIECA, API, OGP, *Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions*, 2003.

<sup>5</sup> Interstate Natural Gas Association of America (INGAA). *Greenhouse Gas Emission Estimation Guidelines for Natural Gas Transmission and Storage, Volume 1 – GHG Emissions Estimation Methodologies and Procedures, Revision 2*, Interstate Natural Gas Association of America, E-2005-01, September 28, 2005.

<sup>6</sup> The Climate Registry (TCR), *General Reporting Protocol*, Version 1.0, March 2008.

<sup>7</sup> Greenhouse gas emissions accounting on the basis of operational control follows the WRI/WBCSD GHG Corporate Accounting Protocol. GHG emissions are accounted at 100% for operations where Questar has operational control. 'Operational control' is clarified by IPIECA Oil and Gas Industry GHG Reporting Guidelines as "...authority to introduce and implement (company's) operational and environmental, health and safety policies."

2 emissions).<sup>8</sup> The Scope 1 GHG emissions account for Questar's activities in developing, producing, gathering, processing, storing, transporting and distributing natural gas from wellhead to burner tip. Because Questar operates solely in the continental U.S., its 2006 GHG emissions are only attributable to U.S. operations. Questar has no assets in the European Union (EU) or other countries, and therefore has no obligations under the EU Emissions Trading Scheme.

b. Direct and Indirect Emissions – Scope 1 and 2 of the GHG Protocol

- ▶ Scope 1 Direct: approximately 2.43 MM metric tonnes CO<sub>2</sub>e
- ▶ Scope 2 Indirect: approximately .07 MM metric tonnes CO<sub>2</sub>e
- ▶ Electricity consumption: 50,373 MWh

c. Other Emissions – Scope 3 of GHG Protocol

No other indirect, or Scope 3 emissions are reported (such as non-owned fleet business travel), as these emissions are considered to be insignificant.

d. External Verification

Questar has not undertaken third party verification of its 2006 GHG emissions data, but is considering external verification for future reporting periods.

e. Data Verification

Questar uses an independent engineering firm to prepare its GHG emissions inventory. The emissions data is collected in the field and verified and reviewed at various levels within the Questar organization. Once verified, the information is provided to the engineering firm for its review and preparation of the GHG emission inventory.

f. Emissions History

This is Questar's second year of reporting its GHG emissions to the CDP. As expected, Questar's overall GHG emissions increased from approximately 2 million metric tonnes to 2.5 million metric tonnes. Questar is one of the fastest growing E&P companies in the domestic U.S. In 2006, Questar's carbon intensity decreased for its E&P business by 5 metric tonnes and increased 25 metric tonnes for its pipeline business. The cause of the increase for its pipeline business has not been fully determined; however, we believe the increase was due in part to the omission of certain equipment from last year's inventory and in part to the installation of new facilities reflecting the company's significant growth.

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<sup>8</sup> Scope 1 emissions defined by WRI/WBCSD Corporate Accounting Guidelines are emissions directly attributable to sources owned or controlled by a company. Scope 2 emissions are attributable to emissions associated with electricity or steam/heat by a company. Scope 3 emissions are a consequence of the activities of a company, but occur from sources not owned or controlled by the company.

g. Emissions Trading

Although not a major activity, Questar has initiated efforts to voluntarily trade GHG emission reduction credits. Questar has identified existing and potential GHG emission reductions that have and may yet be achieved in its operations and will take steps to preserve the value of these potential credits for future trading. As natural gas is chosen instead of more carbon-intensive fuels, Questar envisions future and growing opportunities to offer GHG emission reduction credits in the marketplace. Questar continues to monitor the development and operation of trading mechanisms and exchanges and has consulted with brokers and regulatory bodies to prepare for potential opportunities in trading GHG emission reduction credits.

h. Energy Costs

Questar's primary energy source required to produce, transport, and distribute natural gas is supplied by the natural gas itself. As such, Questar's energy costs are related to its production efficiency. On an operation control basis, Questar estimated its total energy costs for natural gas and electric power for 2006 at approximately \$53 million dollars.

3. Performance

a. Reduction Plans

Questar's exploration and production business is growing at a rapid pace to meet market demands. With such vigorous growth, Questar is not currently able to set an absolute GHG emissions reduction target. Questar is, however, well-positioned to maintain or reduce its carbon intensity throughout its operations, on a unit-of-production or throughput basis, in a commercially reasonable manner. Questar plans to achieve this goal through its continued effort to identify business opportunities for GHG emissions reductions in its existing operations as well future capital expenditures. Questar has initiated an employee-based, company-wide program to promote environmental sustainability in the work environment. Programs include promoting informational articles, implementing an expanded recycling program on-site, transitioning to a more energy-efficient work environment and coordinating with the Company's Volunteer Program to perform outreach green activities within the greater community.

Questar also has embarked on several emissions reduction initiatives to manage its risks and continuously improve its operational efficiency, including cutting-edge practices and technologies in certain oil and gas fields. Some of Questar's initiatives to reduce overall emissions include:

- ▶ High-efficiency drilling rigs and replacement of old, inefficient compressor capacity with new, high-efficiency compression equipment;
- ▶ Directional drilling from a single pad for numerous wells to eliminate the need for multiple pads and associated emissions;
- ▶ "Green" well completions to eliminate flaring during completion and flow back activities;

- ▶ Installation of hydrocarbon liquids and water gathering systems to eliminate truck traffic to haul liquids, minimize product tanks, and reduce fugitive emissions;
- ▶ Field minimization of product tanks in field operations to reduce or eliminate flashing or venting of methane to the atmosphere;
- ▶ Field automation to reduce travel to well sites and compressor stations for remote control of operations;
- ▶ Fleet management techniques to eliminate or reduce traffic in field operations;
- ▶ U.S. EPA Natural Gas STAR participation and implementation of best practices to reduce fugitive emissions for pipeline operations;
- ▶ Customer energy efficiency and conservation program. In 2006, Questar embarked upon an innovative pilot tariff program, the Conservation-Enabling Tariff, which enables the company to promote energy conservation without a financial penalty to the company due to reduced energy use. Under this program, Questar has launched an aggressive customer education campaign with rebates on energy efficient appliances and homes, low income weatherization, and residential energy audits; and
- ▶ CNG vehicles and supply infrastructure. Questar, with the state of Utah, has the second largest CNG supply infrastructure in the U.S.

It is important to note that not all of these GHG-reduction innovations, technologies or processes are feasible or practical at all of Questar's locations or operations.

#### b. Emissions Intensity

Questar uses industry-accepted metrics to quantify GHG emissions intensity, with separate metrics for its unique business segments (i.e., exploration and production, transmission and distribution). Questar's GHG emissions intensity for 2006 was estimated at approximately:

- ▶ 25 metric tonnes CO<sub>2</sub>e per 1000 barrels of oil equivalent<sup>9</sup> – for exploration and production operations (representing a decrease of 5 tonnes over 2005); and
- ▶ 75 metric tonnes CO<sub>2</sub>e per mile of pipeline – for natural gas transmission, storage, and distribution operations (representing an increase of 25 tonnes from 2005); and
- ▶ 2.5 million metric tonnes CO<sub>2</sub>e/\$2.836US turnover (gross revenues) or \$1.0820US EBITDA

Limited GHG emissions intensity benchmarking indicates that Questar's GHG emissions intensity is comparable to other independent, domestic natural gas producers and natural gas transmission/distribution providers.

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<sup>9</sup> Questar's natural gas production was converted to barrels of oil equivalent to be consistent with the carbon-intensity metric used by the oil and gas industry.

c. Planning

Although Questar has not formally forecasted GHG emissions, its GHG emissions are projected to increase in the coming years as demand for natural gas rises and its natural gas production, transportation and distribution businesses grow. Questar is committed to environmentally responsible growth, seeking the most efficient ways to develop, produce, gather, process, store, transport and distribute natural gas. Questar is expanding its production and supply capacity using high-efficiency technology to the extent practical to manage overall emission intensity.

Questar considers the energy efficiency and air quality impacts of equipment in its purchasing decisions for capital expenditures. Examples include purchase or utilization of clean-burn engines and drilling rigs, liquid gathering systems at appropriate locations, and the CNG vehicle fleet. Questar's capital investment policies, guidelines and operating practices, which are systematically audited, are aligned with its environmental initiatives and advancement of best management practices.

5. Governance

a. Responsibility

Questar's Executive Management Committee, which includes Questar's Chairman and CEO, has the overall responsibility for climate change governance and oversight. For managing day-to-day initiatives, Questar has formed an executive level Climate Change Task Force that is responsible for implementation of the corporate GHG strategy. The Task Force reports to the Executive Management Committee of Questar Corporation. The progress and status of climate change initiatives are reviewed periodically, but at least annually, by the full Board of Directors of Questar Corporation. The process is systematically audited for effectiveness and accuracy.

b. Individual Performance

To date, no incentive programs specific to GHG management and performance have been put in place within Questar. There is a spot bonus program which has awarded employees for executing exceptional environmental practices. Questar is exploring the possibility of adding a sustainability dimension to the common employee review.

c. Communication

Members of Questar's management team regularly present to government agencies, trade and business groups and community interest groups on energy policy and related climate change issues. *See*, American Gas, April 2008, American Gas Association, [http://www.aga.org/Pubs/magazine/past\\_issues/2008/Arpil+2008/](http://www.aga.org/Pubs/magazine/past_issues/2008/Arpil+2008/). Questar's employee STReamwise Team actively communicates with employees on climate change and environmental issues. Questar also provided a brief risk disclosure for investors in its 2007 Form 10-K filing.

d. Public Policy

Questar actively participates in national, regional and state industry trade groups such as IPAA, INGAA, AGA, IPAMS, COGA, AXP, and BRAC, to help educate policymakers on the efficacy of various climate change policies that will impact natural gas production, transmission or distribution.