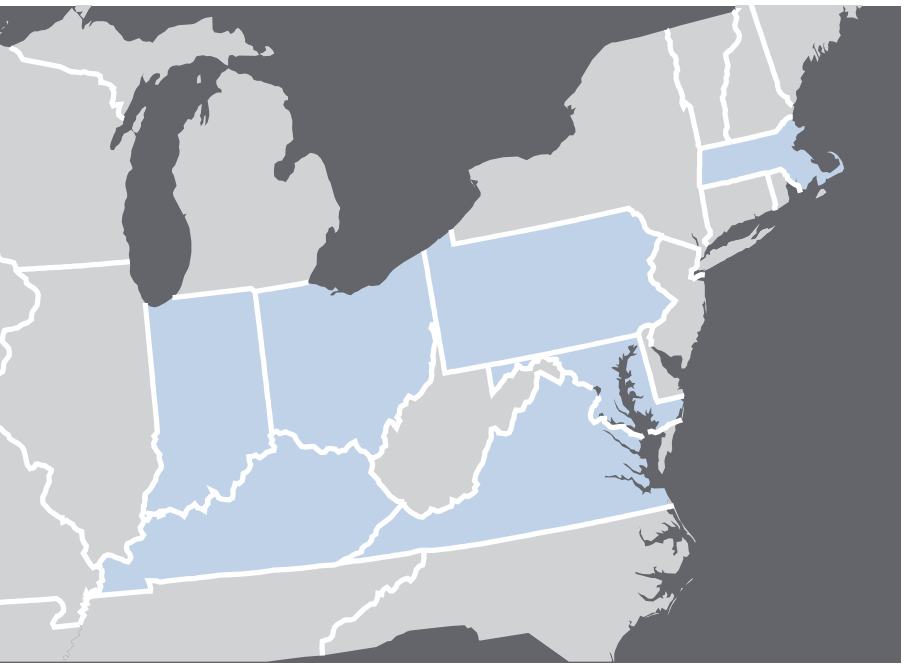
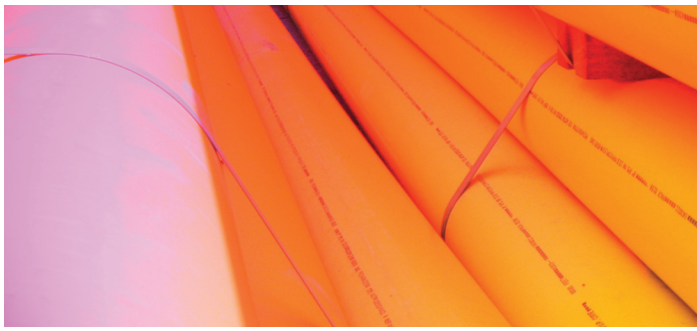
# NISOURCE GREENHOUSE GAS REPORT

A Supplement to the **2016 INTEGRATED ANNUAL REPORT**

NiSource®





## NiSource Company Overview

NiSource Inc. is an energy holding company under the Public Utility Holding Company Act of 2005 whose subsidiaries are fully regulated natural gas and electric utility companies serving approximately 3.9 million customers in seven states. NiSource is the successor to an Indiana corporation organized in 1987 under the name of NIPSCO Industries, Inc., which changed its name to NiSource on April 14, 1999.

NiSource is one of the nation's largest natural gas distribution companies, as measured by number of customers. NiSource's principal subsidiaries include NiSource Gas Distribution Group, Inc., a natural gas distribution holding company, and Northern Indiana Public Service Company (NIPSCO), a gas and electric company. NiSource derives substantially all of its revenues and earnings from the operating results of these rate-regulated businesses.

*Electric Operations Overview*

NiSource generates, transmits and distributes electricity through its subsidiary NIPSCO to approximately 466,000 customers in 20 counties in the northern part of Indiana and engages in wholesale and transmission transactions. NIPSCO owns and operates three coal-fired electric generating stations. The three operating facilities have a net capability of 2,540 Megawatts (MW). NIPSCO also owns and operates Sugar Creek, a combined-cycle gas turbine (CCGT) plant with net capability of 535 MW, three gas-fired generating units located at NIPSCO's coal-fired electric generating stations with a net capability of 196 MW and two hydroelectric generating plants with a net capability of 10 MW. These facilities provide for a total system operating net capability of 3,281 MW. NIPSCO's transmission system, with voltages from 69,000 to 345,000 volts, consists of 2,805 circuit miles. NIPSCO is interconnected with five neighboring electric utilities. During the year ended December 31, 2016, NIPSCO generated 66.4% and purchased 33.6% of its electric requirements.

*Natural Gas Distribution Operations Overview*

NiSource's natural gas distribution operations serve approximately 3.4 million customers in seven states and operate approximately 59,000 miles of pipeline. Through its wholly-owned subsidiary NiSource Gas Distribution Group, Inc., NiSource owns six distribution subsidiaries that provide natural gas to approximately 2.6 million residential, commercial and industrial customers in Ohio, Pennsylvania, Virginia, Kentucky, Maryland and Massachusetts. Additionally, NiSource also distributes natural gas to approximately 820,000 customers in northern Indiana through its wholly-owned subsidiary NIPSCO.

## Greenhouse Gas (GHG) Program Overview

*Commitment to reducing GHG emissions*
NiSource actively considers economic, social and environmental values in conducting its business activities. In the course of providing natural gas and electricity to serve customers' energy needs, the core business activities of NiSource companies result—directly or indirectly—in greenhouse gas emissions, which call for actions targeted at reducing these emissions. NiSource is committed to meeting current and future environmental obligations, and will aggressively engage in activities to reduce potential risks and pursue opportunities associated with policies enacted to address climate change. NiSource will meet the energy needs of its customers and address climate change issues through business activities which promote sustained economic growth in a manner compatible with its environmental obligations. NiSource is also committed to further reducing the carbon intensity of its operations.

*Long history of GHG reduction management, leadership and public reporting*
NiSource has a long history of transparent management and accurate reporting of GHG emissions. Since the early 1990's, when the company entered its first voluntary carbon partnership with the U.S. Environmental Protection Agency (EPA), NiSource has developed comprehensive, reliable and transparent processes to document, report and reduce GHG emissions.

NiSource has been actively involved in a number of national GHG reduction programs. In 1993, NiSource joined the EPA's **Natural Gas STAR Program,** a program where companies commit to identifying, tracking and reducing GHG emissions associated with natural gas operations. With more than 20 years of participation and support, NiSource continues to voluntarily reduce and report methane emissions as part of the Natural Gas STAR Program. In March 2016, NiSource furthered its commitment to the program by joining the expanded **Natural Gas STAR Methane Challenge Program** as a Founding Member. The Methane Challenge Program is an integral part of the EPA's ongoing commitment to address methane emissions and global climate change. The program provides a framework through which oil and gas companies can make and track commitments to further reduce methane emissions.

In 2005, NiSource contributed to another EPA-sponsored voluntary effort by participating in the EPA's **Climate Leaders Program.** In addition to the EPA programs, NiSource also participated in the U.S. Department of Transportation's **1605(b) Voluntary Reporting of Greenhouse Gases Program,** which was in existence from 2002 through 2007, and was a Charter Member of the U.S. Department of Energy's **Climate Challenge Program.**

All of these efforts highlight NiSource's commitment to effectively and proactively managing, reporting and reducing greenhouse gas emissions. As NiSource's 2016 GHG Report shows, these efforts have led to significant corporate-wide emission reductions, with even further reductions projected over the coming years.

*Greenhouse Gas Emission Reduction Targets*
As part of its regular electric supply planning process, NIPSCO recently announced that it is considering long-term supply options, which will lead to the retirement of the company's two coal-fired units at the Bailly Generating Station and two additional coal-fired units at the R.M. Schahfer Generating Station over the next seven years. These retirements will result in significant reductions in GHG emissions from the company's electric generation portfolio, among other environmental benefits. For complete details regarding NIPSCO's resource planning strategy outside of its GHG reductions, please visit www.nipsco.com/IRP.

NiSource is also engaged in a robust, multi-year effort to replace existing natural gas distribution pipes with modern, state-of-the-art materials, such as advanced plastics and protected steel. These investments improve the safety and reliability of the company's gas distribution system and reduce methane emissions associated with small leaks. While NiSource has already achieved significant methane emission reductions, the company is committed to reducing these emissions even further through an ongoing priority pipe replacement program.

As part of the company's ongoing commitment to reduce GHG emissions, NiSource announced in 2017 forward-looking GHG emission targets. NiSource is targeting a 50% reduction of GHG emissions from its electric operations by 2025 from a 2005 baseline, and a 50% reduction in methane emissions from its gas distribution mains and services over the same period. These emission sources account for approximately 95% of NiSource's total direct GHG emissions.

### NISOURCE GHG EMISSIONS REDUCTION TARGETS

| Source | Gas | Target | Baseline Year | Target Year | Progress through 2016 |
|---|---|---|---|---|---|
| **Electrical Generation** | Carbon Dioxide | 50% Reduction | 2005 | 2025 | 41% Reduction |
| **Gas Distribution Mains and Services** | Methane | 50% Reduction | 2005 | 2025 | 28% Reduction |

*NiSource Greenhouse Gas Inventory Verified by Independent Third-Party*

In an ongoing effort to improve the accuracy and reliability of NiSource's GHG inventory, NiSource is working with an independent third party to verify NiSource's GHG emission management, calculations and documentation. Attached to NiSource's 2016 GHG report is a verification statement from Trinity Consultants, a recognized leader in third-party GHG verification services. Trinity verifiers have extensive operational, GHG calculation, and inventory verification experience, which ensures the accuracy of NiSource's GHG emission inventory calculations.

*Climate Change Policy*

The Environmental, Safety and Sustainability Committee of the NiSource Board of Directors adopted the company's Climate Change Policy in 2009, which states NiSource's commitment to reducing the carbon intensity of company operations. The policy specifically calls for the following:

- NiSource will remain an industry leader in accurately accounting for GHG emissions, and providing timely reporting and transparency in climate related activities.
- NiSource will increase the efficiency and reduce the carbon intensity with which NiSource companies provide energy to customers by taking steps to produce and obtain electricity from sources with lower carbon intensity, increase natural gas transportation efficiency and reduce methane losses from natural gas transmission and distribution.
- NiSource will encourage customers to use energy wisely by working with them to develop demand side management and energy conservation programs, along with ensuring that the revenue models under which regulated NiSource companies recover their costs are aligned with energy efficiency goals.[1]

## Greenhouse Gas Program Design

The NiSource companies report emissions under the WRI Greenhouse Gas Protocol[2] control approach including Scope 1, Scope 2 and identified Scope 3 emissions.[3] Therefore, NiSource companies report virtually all of the GHG emissions resulting from operations and include Scope 3 emissions related to purchased power from third-party electric generation entities. For the purpose of reporting GHG emissions, control is defined as the ability to introduce and implement operational policy, having operational control or having majority interest in the entity.

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[1] NiSource's complete Climate Change Policy can be found at https://www.nisource.com/docs/default-source/pdf/niclimate-change-policy.pdf

[2] The Greenhouse Gas Protocol (GHG Protocol) is the most widely used international accounting tool for government and business leaders to understand, quantify, and manage greenhouse gas emissions. The GHG Protocol, a decade-long partnership between the World Resources Institute and the World Business Council for Sustainable Development, is working with businesses, governments, and environmental groups around the world to build a new generation of credible and effective programs for tackling climate change. See http://www.ghgprotocol.org/ for additional information.

[3] Scope 1: All direct GHG emissions from sources that are owned or controlled by the reporting entity.

The six major GHGs are considered for inclusion in NiSource's GHG emissions inventory. Given the nature of operations, the following four GHG's are ultimately included in the emissions inventory: carbon dioxide ($CO_2$), nitrous oxide ($N_2O$), and methane ($CH_4$) from the natural gas transmission, storage and distribution facilities; $CO_2$, $N_2O$ and $CH_4$ from electric generating plants; sulfur hexafluoride ($SF_6$) from electric power transmission and distribution operations; and $CO_2$ from natural gas supply. Consistent with best-practice GHG reporting, NiSource's emissions are generally converted to units of carbon dioxide equivalent ($CO_2e$) emissions.[4]

GHG emissions from NIPSCO's electric operations account for approximately 67% of NiSource's combined Scope 1, Scope 2, and Scope 3 emissions. NIPSCO's electric generating units are regulated under the Acid Rain or Nitrogen Oxide (NOx) Budget trading programs, and use monitoring systems to measure $CO_2$ that meet EPA's requirements in Code of Federal Regulations (CFR) Title 40 Part 75. 40 CFR Part 75 specifies the types of continuous monitoring systems used for each parameter ($SO_2$, NOx, $CO_2$, etc.) and sets forth the operation, maintenance and quality assurance/quality control (QA/QC) requirements for each system, to ensure that the data collected by the monitoring systems continue to be accurate. The Acid Rain Part 75 monitoring program requirements are recognized for generating high-quality data for use in the EPA Clean Air Markets division emission trading programs.

Before any data from Part 75 monitoring systems can be reported as quality-assured, the systems must pass a series of certification tests, to demonstrate that they are capable of providing accurate emissions data. Performance Test methods, approved by EPA and other reputable standards organizations such as the American Society of Mechanical Engineers (ASME), are used to certify Part 75 monitoring systems. In addition, high-quality calibration gases are used in many of the certification tests. When flow meters are used, they are recertified using test methods or, in some cases, design specifications, which have been published by consensus standards organizations such as ASME, AGA, and the American Petroleum Institute (API).

The NiSource GHG emission inventory utilizes a combination of the U.S. EPA Part 98 protocol and also the WRI Greenhouse Gas Protocol for emissions values and emission factors. The NiSource GHG inventory is a Tier 2 and Tier 3 rated assessment inventory.

Excluding emissions from purchased power, 95 percent of the 2016 NiSource GHG inventory emission values are reported to EPA under the Part 98 Greenhouse Gas Reporting Program. NiSource business units annually report GHG data to the Greenhouse Gas Reporting Program utilizing EPA-approved methods, with the majority of emissions directly measured with continuous emission monitoring systems (CEMS). NiSource invests approximately $2.5 million every year to collect, validate and verify its GHG and other air emissions. This level of high quality data management helps confirm our commitment to providing timely reporting and transparency in climate-related activities.

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Scope 2: Indirect GHG emissions from consumption of purchased electricity, heat or steam.
Scope 3: Other indirect emissions, such as the extraction and production of purchased materials and fuels, transport-related activities in vehicles not owned or controlled by the reporting entity, electricity-related activities (e.g. T&D losses) not covered in Scope 2, outsourced activities, waste disposal, etc.

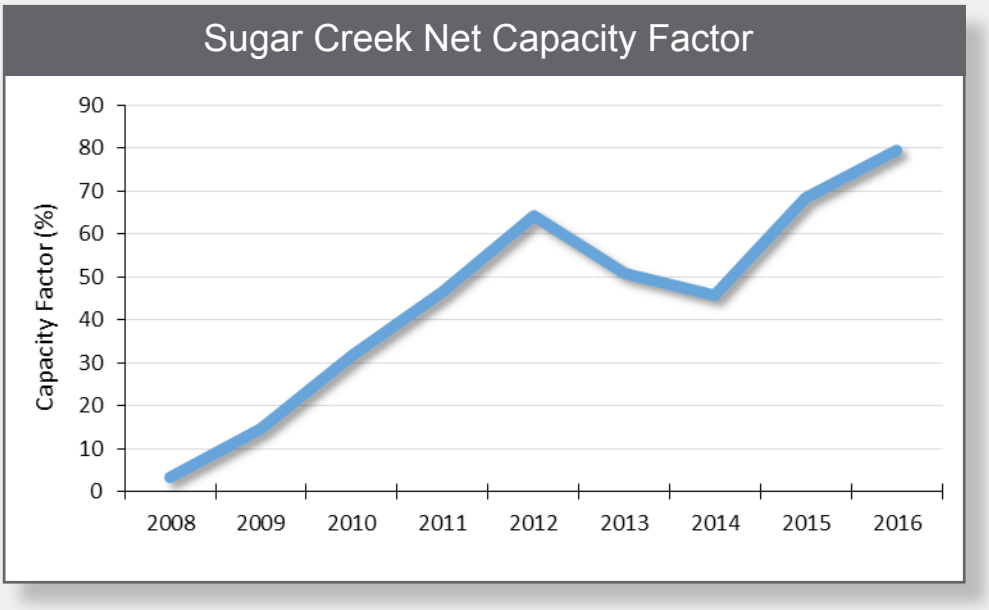
[4] $CO_2e$ is a measure used to compare the relative heat trapping potential of a greenhouse gas to the heat trapping potential of carbon dioxide. This allows organizations and governments to account for greenhouse gas emissions using a single unit of measure. Each greenhouse gas is assigned a global warming potential (GWP), which is used to convert emissions from a single greenhouse gas into its carbon dioxide equivalent emissions. For example, the $CO_2e$ emissions of 1 tonne $CO_2$ = 1 tonne $CO_2e$ (since the global warming potential of $CO_2$ is 1). The $CO_2e$ emissions of 1 tonne $CH_4$ (methane) is 25 tonnes $CO_2e$ (since methane has a GWP of 25, indicating that methane has 25 times the heat trapping potential than carbon dioxide over a hundred-year time frame.

## Factors Driving GHG Emission Reductions

NiSource is reducing GHG emissions across the company's entire footprint. From increased use of natural gas and renewable energy for electricity generation, to large-scale pipeline modernization programs, NiSource's greenhouse gas emissions are declining from both electric and natural gas operations.

*Increased Electric Generation from Sugar Creek*

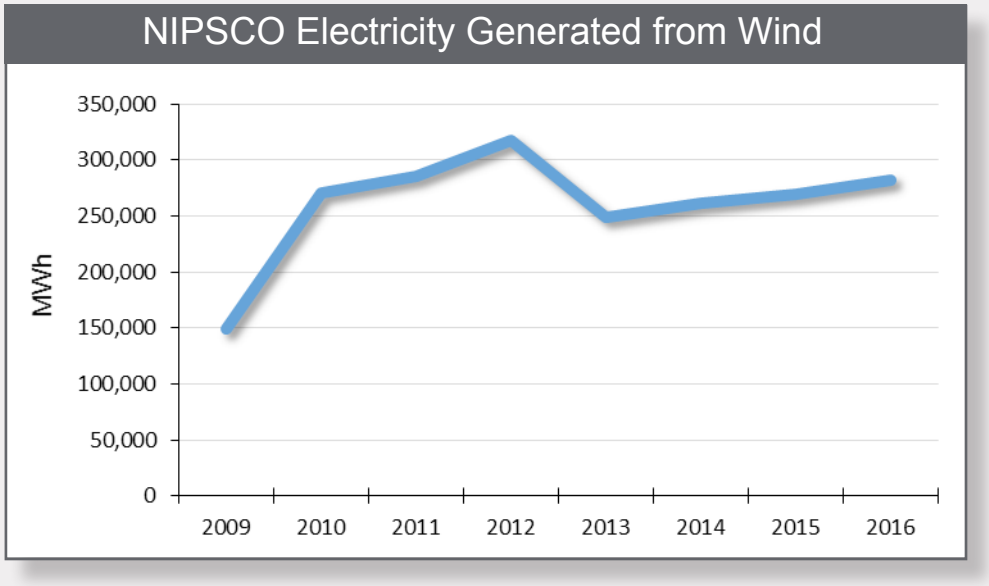
NIPSCO added the Sugar Creek Generating Station to its electric generation portfolio in 2008. This 535 MW natural gas combined cycle facility uses both gas and steam turbines to efficiently generate electricity at lower CO2 rates than coal-fired power plants. By routing waste heat from the gas turbine to a steam turbine, the Sugar Creek Generating Station emits approximately half of the CO2 emissions emitted by a coal-fired power plant per unit of electricity produced. Offsetting coal electric generation with electric generation from Sugar Creek has reduced NiSource greenhouse gas emissions. As shown in the graph below, Sugar Creek's net capacity factor[5] reached 78% in 2016, significantly exceeding its historical average capacity factor. Low natural gas prices and efficient operation of the facility has led to increased utilization of this facility.




[5] The net capacity factor of a power plant is the ratio of the net electricity generated, for the time considered, to the energy that could have been generated at continuous full-power operation during the same period. For example, Sugar Creek produced 78% of the maximum energy output of the facility in 2016. The average nation-wide capacity factor for NGCC facilities was 56% in 2016. Source: https://www.eia.gov/electricity/monthly/epm_table_grapher.cfm?t=epmt_6_07_a

*Increased Electric Generation from Renewable Energy*

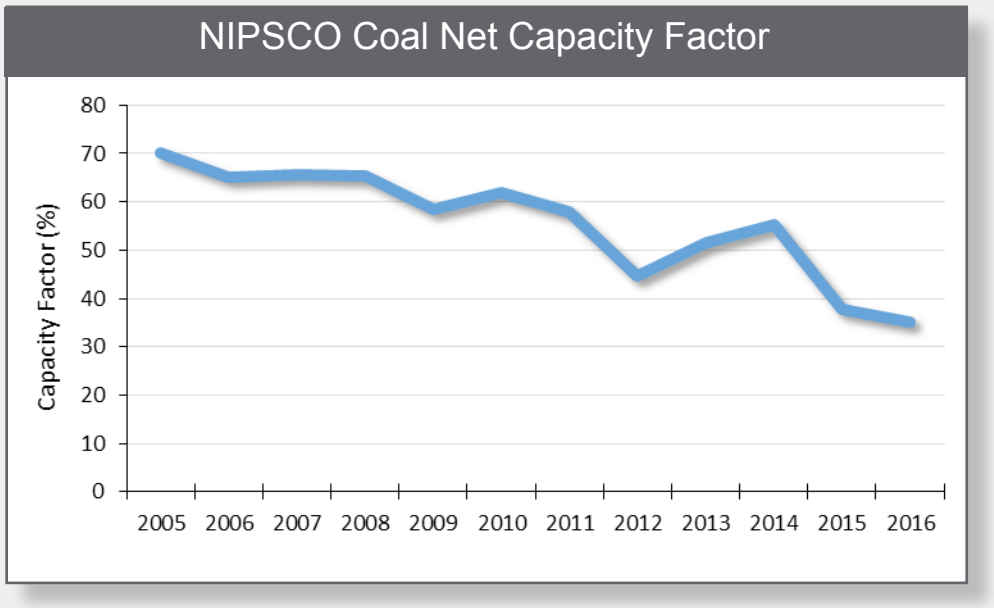
In April 2009, NIPSCO entered into two renewable energy power purchase agreements (PPAs) with Iberdrola, a renewable energy development company. As part of the PPAs, NIPSCO purchases renewable energy generated from two wind farms – Barton, located in Worth County, Iowa and Buffalo Ridge, located in Brookings County South Dakota. The PPA for Barton spans 20 years, while the PPA for Buffalo ridge spans 15 years. Between the two wind farms NIPSCO has added 100 MW of renewable energy to its electric supply portfolio. The total net output from Barton is 50 MW and the total net output of Buffalo Ridge is 50.4 MW. In 2016, NIPSCO purchased 282,000 MWh of wind energy from the two wind farms.




*Reduced Electric Generation from Coal Plants*

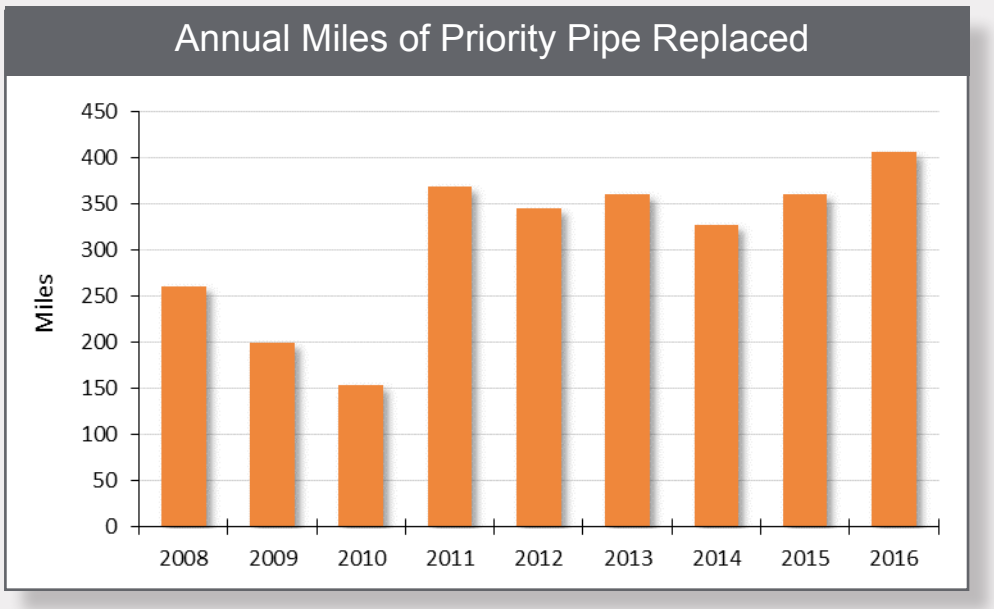
A variety of factors, including low natural gas prices, has led to reduced electric generation from coal-fired power plants across the United States. Like many coal-fired power plants in the U.S., NiSource's three coal-fired power plants have operated at lower capacity factors in recent years. The lower utilization rates of these facilities have resulted in reduced greenhouse gas emissions from NiSource's electric generation portfolio.[6] While the emission rate of coal facilities is higher than NGCC facilities, a diverse electric portfolio that includes coal resources ensures that electricity can be reliably served at reasonable costs.

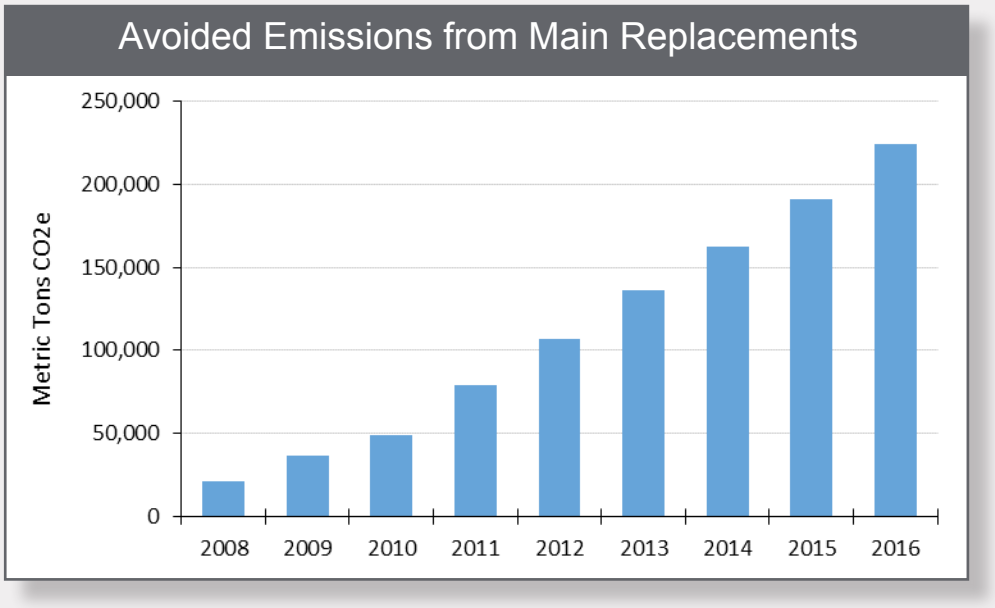
[6] In 2001, NiSource made significant reductions in its carbon footprint when NIPSCO ceased operation of its 502 MW D.H. Mitchell coal-fired electric generation facility.




*Natural Gas Pipeline Modernization Program*

Since 2008, NiSource's gas distribution companies have proactively retired or replaced more than 2,700 miles of priority distribution mains. Replacing earlier-generation unprotected steel and cast iron mains with modern protected steel and plastic mains significantly reduces methane emissions. At the end of 2016, these priority distribution main replacements have reduced annual carbon dioxide-equivalent ($CO_2e$) emissions by more than 223,000 metric tons. Over the next five years, NiSource's ongoing main replacement programs are projected to reduce $CO_2e$ emissions by an additional 140,000 metric tons.

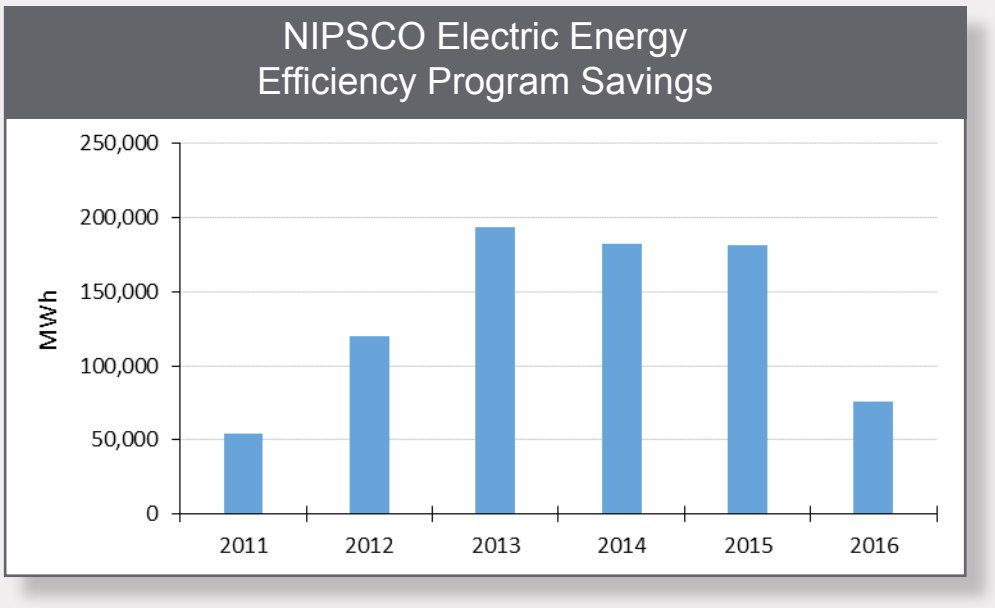


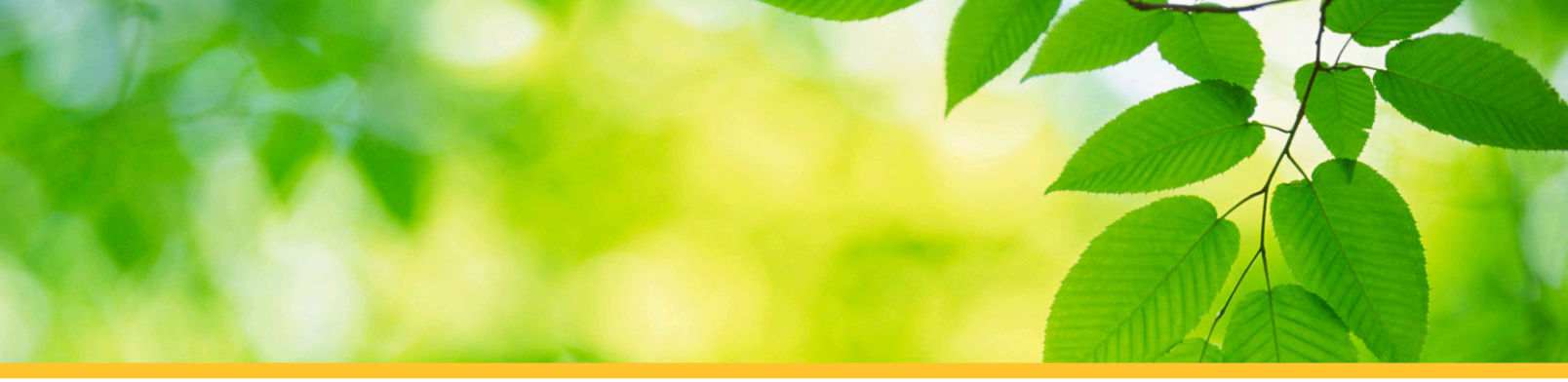



**Programs to help customers reduce greenhouse gas emissions**

NiSource develops and promotes a number of innovative natural gas and electric energy efficiency programs to help customers reduce energy consumption. These programs help reduce CO2 emissions associated with customer energy use.

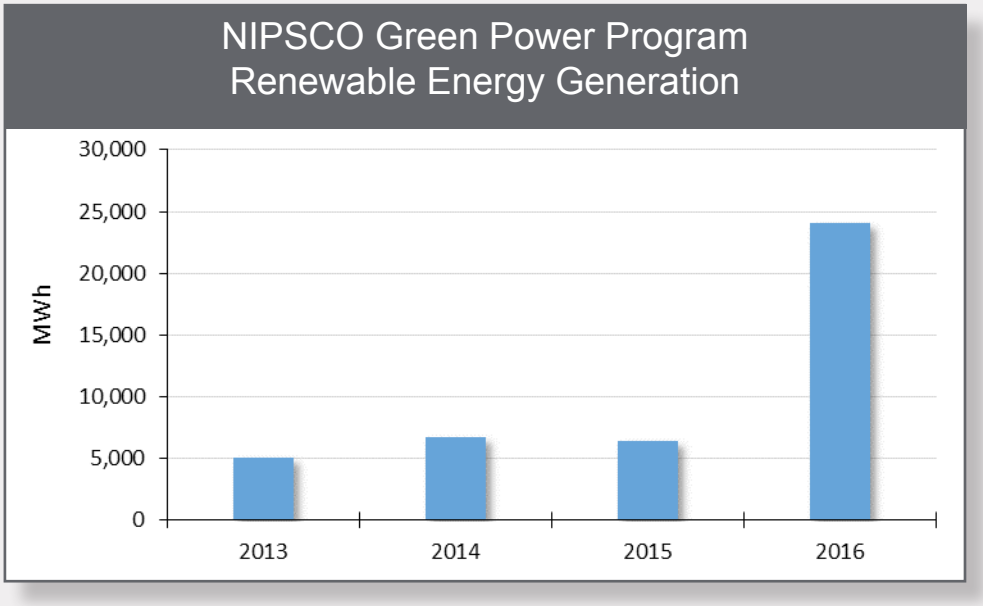
*Energy Saving Programs for Electric Customers*
In 2016, NIPSCO provided electric efficiency programs, including residential lighting, home energy assessments, low income weatherization, commercial and industrial incentives, energy-efficiency audits for schools, residential new construction and efficiency rebates and customized energy usage reports for residential customers. NIPSCO's total spend for its electric efficiency programs was $11.3 million in 2016. These efficiency programs resulted in gross savings of 76,086 MWh in 2016.

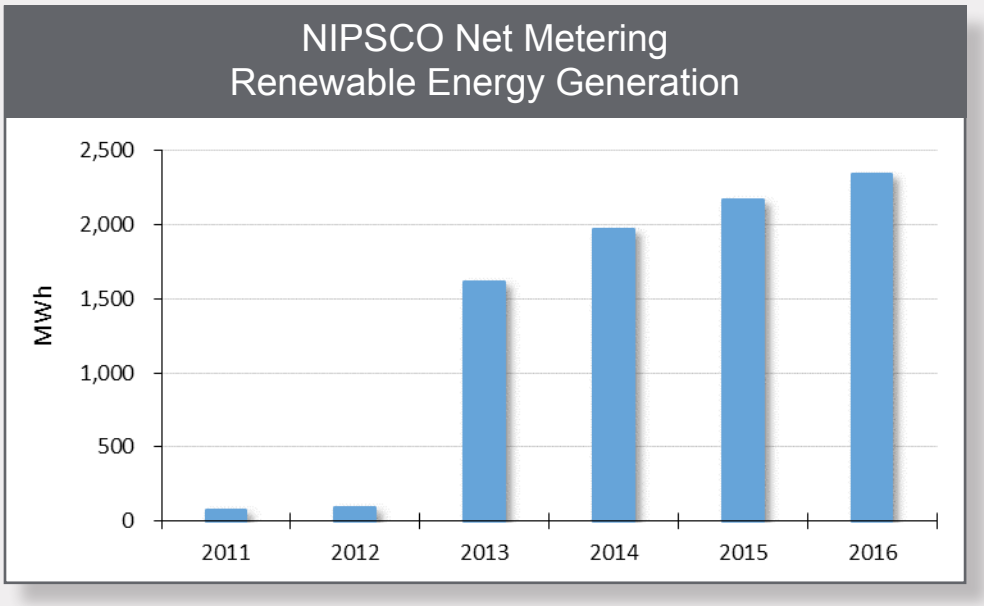


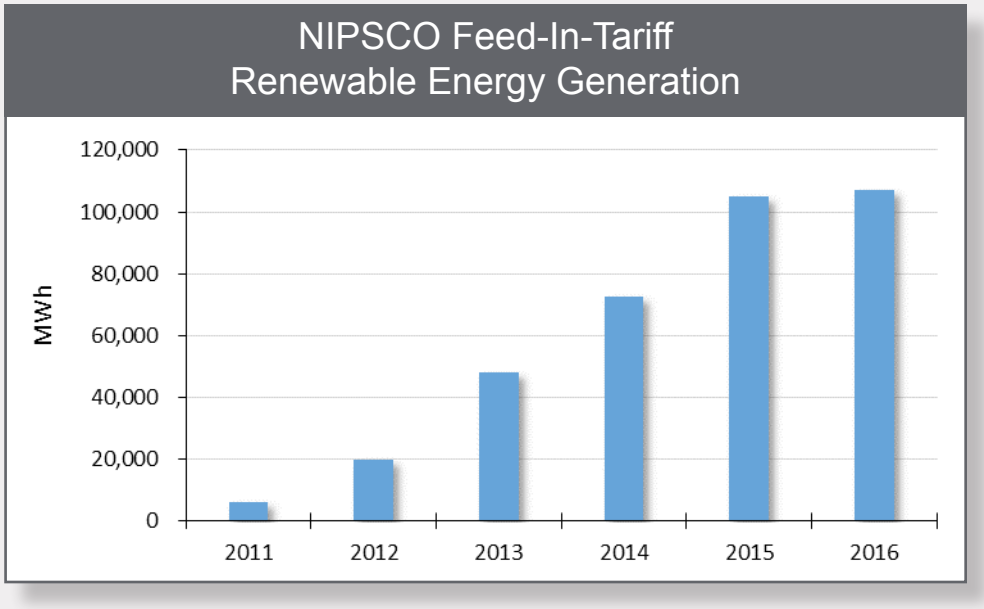


*Renewable Energy Programs for Electric Customers*

In addition to the renewable wind energy purchased through NIPSCO's PPAs, the company is continuing three popular customer programs that encourage the use of renewable resources. These include the Feed-In Tariff, Net Metering and Green Power programs. The Feed-In Tariff and Net Metering programs promote renewable electric generation by allowing customers to generate their own electricity via renewable resources. In 2016, 107,248 MWh of renewable energy was generated through NIPSCO's Feed-In Tariff program and 2,345 MWh of renewable energy was generated through the Net Metering program. The Green Power program allows electric customers to pay a premium, approximately $2 per month for the average home, and designate 25, 50 or 100 percent of their monthly electric usage to be attributed to renewable energy sources. Approximately 1,056 homes and businesses are enrolled in the program. In 2016, NIPSCO customers achieved a record 24,035 MWhs of renewable energy through the Green Power Program.

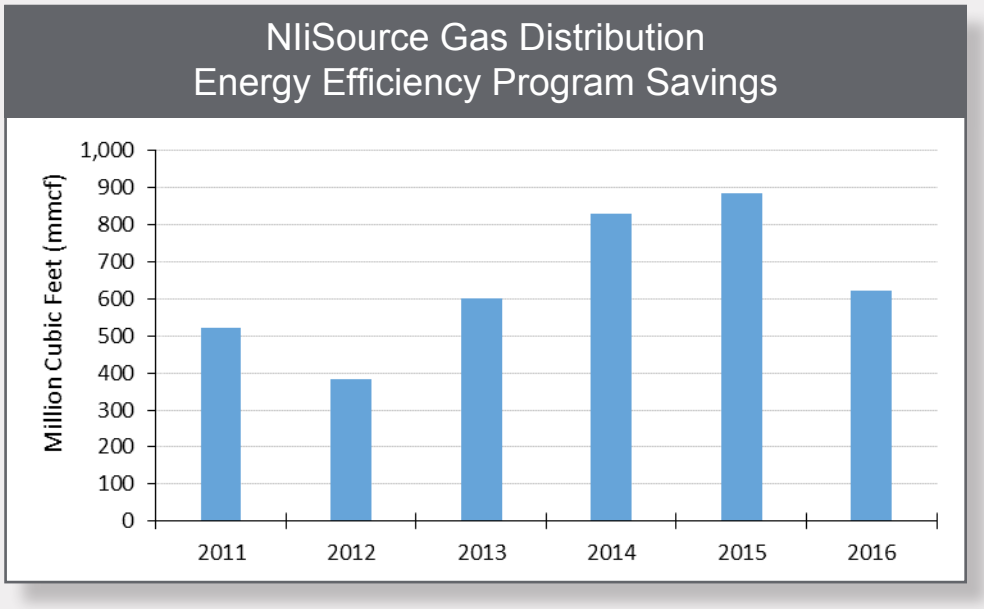





*Energy Saving Programs for Natural Gas Customers*

NiSource operates a number of natural gas distribution energy efficiency programs through its seven natural gas distribution companies (Columbia Gas of Virginia, Columbia Gas of Ohio, Columbia Gas of Massachusetts, Columbia Gas of Pennsylvania, Columbia Gas of Maryland, Columbia Gas of Kentucky and NIPSCO). The total expenditure for gas distribution efficiency programs at the Columbia Gas companies for 2016 was approximately $86.3 million. This budget included spending for low-Income, residential, and commercial and industrial efficiency programs. These programs served 503,316 customers and resulted in total savings of $5.3 million for customers in 2016. During 2016, natural gas efficiency programs in Kentucky, Maryland, Massachusetts, Ohio, Pennsylvania, and Virginia saved customers over 379 million cubic feet (MMcf) of natural gas. At NIPSCO, gas efficiency programs such as appliance and new construction rebates, low income weatherization, elementary education, and home energy assessment programs, resulted in gross savings of 244 MMcf in 2016. The total expenditure for NIPSCO's 2016 gas distribution efficiency programs was approximately $4.7 million.



## Climate Change Risks and Opportunities

*Climate Change Risks*

A disruption or failure of natural gas distribution systems, or within electric generation, transmission or distribution systems, in the event of a major hurricane, tornado, terrorist attack or other catastrophic event could cause delays in completing sales, providing services, or performing other critical functions. NiSource has experienced disruptions in the past from hurricanes and tornadoes and other events of this nature. The occurrence of such events could adversely affect NiSource's financial position and results of operations. In accordance with customary industry practice, NiSource maintains insurance against some, but not all, of these risks and losses. There is also a concern that climate change may exacerbate the risks to physical infrastructure. Such risks include heat stresses to power lines, storms that damage infrastructure, lake and sea level changes that damage the manner in which services are currently provided, droughts or other stresses on water used to supply services, and other extreme weather conditions. Climate change and the costs that may be associated with its impacts have the potential to affect NiSource's business in many ways, including increasing the cost NiSource incurs in providing its products and services, impacting the demand for and consumption of its products and services (due to change in both costs and weather patterns), and affecting the economic health of the regions in which NiSource operates.

*Climate Change Opportunities*

NiSource is currently executing against an approximately $30 billion portfolio of investment opportunities. Many of these investments, such as pipeline modernization programs, reduce greenhouse gas emissions. NiSource's plans also include investments in future electric generation resources with lower GHG emission intensities, reducing the company's exposure to GHG regulatory risk. Finally, the expanding domestic supply of natural gas, combined with its low cost and positive environmental attributes, will continue to positively impact NiSource. With approximately two thirds of NiSource's existing operations solidly connected to the natural gas industry, an investment plan that includes approximately $30 billion in system modernization and growth projects, infrastructure and customer programs, and an industry-leading regulated platform, NiSource is well positioned for the future.

## Greenhouse Gas Emission Results

The following tables provide detailed information regarding NiSource's GHG emissions.

### NISOURCE 2016 GHG EMISSIONS BY CATEGORY

| Activity | Emissions (Tonnes CO2e) | Percentage of Total Emissions |
|---|---|---|
| **Electrical Generation**[7] | 10,789,412 | 67.5% |
| **Purchased Power** | 3,652,183 | 22.9% |
| **Gas Distribution** | 1,358,752 | 8.5% |
| **Sulfur Hexafluoride (SF6)** | 64,632 | 0.4% |
| **Indirect Electric** | 56,027 | 0.4% |
| **Mobile** | 41,736 | 0.3% |
| **Building Natural Gas** | 11,985 | 0.1% |
| **TOTAL** | **15,974,727** | **100%** |

[7] Excludes emissions from Purchased Power.

## NISOURCE 2016 GHG EMISSIONS BY COMPANY[8]

| Company | CO2 | CH4 | N2O | SF6 | Total (Tonnes CO2e) |
|---|---|---|---|---|---|
| **Columbia Gas of Kentucky** | 6,117 | 2,426 | 0.07 | 0 | 66,795 |
| **Columbia Gas of Maryland** | 1,118 | 917 | 0.02 | 0 | 24,038 |
| **Columbia Gas of Massachusetts** | 11,358 | 6,211 | 0.12 | 0 | 166,662 |
| **Columbia Gas of Ohio** | 38,655 | 21,048 | 0.41 | 0 | 564,987 |
| **Columbia Gas of Pennsylvania** | 15,309 | 9,361 | 0.15 | 0 | 249,374 |
| **Columbia Gas of Virginia** | 19,395 | 2,787 | 0.16 | 0 | 89,129 |
| **NIPSCO[9]** | 14,424,775 | 10,129 | 207 | 2.8 | 14,804,310 |
| **NiSource Corporate** | 9,369 | 1 | 0.15 | 0 | 9,431 |
| **TOTAL** | **14,526,096** | **52,880** | **208** | **2.8** | **15,974,727** |

## NISOURCE 2016 GHG EMISSIONS BY ACTIVITY

| Emission Source | CO2 | CH4 | N2O | SF6 | Total (Tonnes CO2e) |
|---|---|---|---|---|---|
| **Electric Generation** | 10,720,327 | 1,016 | 147 | 0.0 | 10,789,412 |
| **Gas Distribution – Fugitive & Vented** | 1,515 | 50,126 | 0.0 | 0.0 | 1,254,671 |
| **Gas Distribution – Combustion** | 61,294 | 0.0 | 0.0 | 0.0 | 61,294 |
| **Mobile** | 41,393 | 1.3 | 1.0 | 0.0 | 41,736 |
| **Electric – Transmission & Distribution** | 0.0 | 0.0 | 0.0 | 2.8 | 64,632 |
| **Gas Storage – Fugitive & Vented** | 123 | 1,316 | 0.0 | 0.0 | 33,031 |
| **Gas Storage – Combustion** | 3,793 | 0.1 | 0.0 | 0.0 | 3,796 |
| **LNG/LPG** | 5,828 | 5.1 | 0.0 | 0.0 | 5,960 |
| **Building Natural Gas** | 11,973 | 0.2 | 0.0 | 0.0 | 11,985 |
| **Indirect – Electric** | 55,615 | 6.0 | 0.8 | 0.0 | 56,027 |
| **Purchased Power** | 3,624,234 | 409 | 60 | 0.0 | 3,652,183 |
| **TOTAL** | **14,526,096** | **52,880** | **208** | **2.8** | **15,974,727** |
| Total – Scope 1 | 10,846,247 | 52,466 | 148 | 2.8 | 12,266,516 |
| Total – Scope 2 | 55,615 | 6 | 1 | 0 | 56,027 |
| Total – Scope 3 | 3,624,234 | 409 | 60 | 0 | 3,652,183 |

[8] All units are in Tonnes.

[9] Includes purchased power emissions.

## HISTORICAL ELECTRIC GENERATION AND EMISSIONS INTENSITY[10]

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Generation Emissions (Tonnes CO2e)** | 18,365,425 | 16,435,774 | 16,922,899 | 16,694,553 | 15,103,475 | 16,110,206 | 15,344,331 | 12,684,685 | 14,426,984 | 14,837,074 | 10,917,907 | **10,789,412** |
| **Purchased Emissions (Tonnes CO2e)** | 1,254,567 | 2,052,102 | 2,922,043 | 2,459,491 | 1,343,924 | 1,206,705 | 1,577,526 | 2,899,921 | 2,567,493 | 2,676,496 | 3,482,003 | **3,652,183** |
| **Total Emissions (Tonnes CO2e)** | 19,619,992 | 18,487,876 | 19,844,943 | 19,154,044 | 16,447,399 | 17,316,911 | 16,921,857 | 15,584,606 | 16,994,477 | 17,513,571 | 14,399,910 | **14,441,595** |
| **Generated Electricity (Net MWh)** | 16,805,533 | 14,738,309 | 14,858,227 | 15,031,937 | 14,155,803 | 15,534,957 | 15,390,784 | 13,282,610 | 14,153,145 | 14,743,478 | 11,874,182 | **11,781,150** |
| **Purchased Electricity (MWh)** | 1,611,704 | 2,692,394 | 3,833,773 | 3,226,863 | 1,868,702 | 1,966,457 | 2,524,088 | 4,243,034 | 3,738,713 | 3,908,273 | 5,288,377 | **5,477,590** |
| **Total MWh** | 18,417,237 | 17,430,703 | 18,692,000 | 18,258,800 | 16,024,505 | 17,501,414 | 17,914,872 | 17,525,644 | 17,891,858 | 18,651,752 | 17,162,559 | **17,258,741** |
| **Emission Intensity (Tonnes CO2e/MWh)** | 1.065 | 1.061 | 1.062 | 1.049 | 1.026 | 0.989 | 0.945 | 0.889 | 0.950 | 0.939 | 0.839 | **0.836** |
| **Emission Intensity (Lbs CO2e/MWh)** | **2,349** | **2,338** | **2,341** | **2,313** | **2,263** | **2,181** | **2,082** | **1,960** | **2,094** | **2,070** | **1,850** | **1,845** |

## HISTORICAL NISOURCE EMISSIONS BY BUSINESS SEGMENT[11]

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gas Distribution | 1,761,876 | 1,812,048 | 1,723,393 | 1,711,185 | 1,659,671 | 1,546,647 | 1,525,133 | 1,527,122 | 1,430,194 | 1,393,066 | 1,355,480 | 1,358,752 |
| Electric Generation | 19,719,760 | 18,553,640 | 19,897,883 | 19,232,580 | 16,494,765 | 17,350,453 | 16,959,605 | 15,601,450 | 16,998,459 | 17,557,786 | 14,425,932 | 14,506,227 |
| Other | 99,530 | 117,484 | 87,517 | 107,738 | 96,066 | 117,055 | 108,762 | 107,217 | 106,397 | 108,601 | 105,599 | 109,748 |
| **TOTAL** | **21,581,167** | **20,483,172** | **21,708,794** | **21,051,503** | **18,250,502** | **19,014,155** | **18,593,500** | **17,235,789** | **18,535,050** | **19,059,453** | **15,887,011** | 15,974,727 |

# Appendix A – NiSource Energy Efficiency Program Highlights

## DISTRIBUTION COMPANY CUSTOMER ENERGY EFFICIENCY PROGRAMS

| Company | Customer Program Websites |
|---|---|
| **Columbia Gas of Kentucky** | https://www.columbiagasky.com/en/ways-to-save |
| **Columbia Gas of Maryland** | http://www.columbiagasmd.com/ways-to-save |
| **Columbia Gas of Massachusetts** | https://www.columbiagasma.com/en/ways-to-save |
| **Columbia Gas of Ohio** | https://www.columbiagasohio.com/ways-to-save |
| **Columbia Gas of Pennsylvania** | http://www.columbiagaspa.com/ways-to-save |
| **Columbia Gas of Virginia** | http://www.columbiagaspa.com/ways-to-save |

[10] Updates to GWPs and other emission factors may result in slight variations from previously reported values.

[11] Updates to GWPs and other emission factors may result in slight variations from previously reported values.

## SELECT PROGRAM HIGHLIGHTS

| Program | Description |
|---|---|
| **Residential Lighting** | Retail buy-down program aimed at promoting the use of ENERGY STAR qualified lighting. Discounted pricing on qualified LED bulbs to residential electric customers through participating retailers, with no coupons or forms required. |
| **Home Energy Assessment** | Walk through assessment of a customer's insulation, ducts and HVAC systems. Detailed report summarizing findings and suggesting weatherization measures is provided to the customer. Direct installation of CFLs, water-saving showerheads and aerators is provided. The Home Energy Assessment is provided at no cost to the customer. |
| **Income Qualified Weatherization** | Complete weatherization assessment. Direct installation of LED bulbs, hot water pipe wrap, electric water heater wrap, low-flow showerheads and aerators, along with other energy saving equipment. There is no cost to the customer for this program. |
| **School Education Program** | Teachers, 5th grade students, and parents can participate in this nationally recognized program designed to explore how to be responsible energy consumers at any age. The program provides both classroom instruction and a Take Action Kit full of take-home energy efficiency items. |
| **Prescriptive Incentive Program** | Provides financial incentives to qualifying large commercial, industrial, non-profit, governmental and institutional customers, who are making electric and natural gas energy efficiency improvements in existing buildings. |
| **New Construction Incentive Program** | Program designed to encourage builders to utilize energy efficient practices by providing a cash-back rebate based on HERS ratings and installation of energy-efficient HVAC equipment. |
| **Energy Efficiency Rebate Program** | Provides cash-back rebates designed to cover a portion of the costs to upgrade to energy efficient products, thereby increasing their market penetration. |
| **Appliance Recycling Program** | Customers are provided a cash incentive to encourage participation in this environmentally responsible program to recycle working refrigerators and freezers. Appliances are picked up and removed from the customer's home at no charge. |
| **Air Conditioner Cycling Program** | Direct load control program for residential and small commercial customers. Customer AC units are cycled during high demand system peaks to decrease electric demand. Customers are given a bill credit during the summer months for their participation. |
| **Commercial & Industrial New Construction Incentive Program** | Promotes energy efficient new construction of commercial and industrial facilities within NIPSCO service territory. Offers financial incentives to encourage building owners, designers and architects to exceed standard building practices and achieve efficiency, above and beyond, the current statewide building code requirements. The goal of the Program is to produce newly constructed and expanded buildings that are among the most efficient in the nation. |
| **Small Business Direct Install Program**[12] | Program designed to encourage energy-saving projects involving the installation of new, high-efficiency equipment or systems. Provides incentives for energy-saving LED lighting, programmable thermostats, and other equipment. |

[12] This program is available to any business or non-profit organization served under NIPSCO electric tariffs 720, 721, 722, 723 and with a metered demand of less than 200 kW per year. Eligible NIPSCO natural gas customers are those served under rates 421, 425 or 451 (NIPSCO's DependaBill rate).

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# NISOURCE, INC.
# 2016 CLIMATE DATA VERIFICATION STATEMENT

## Introduction

Trinity Consultants, Inc. ("Trinity") was contracted by NiSource, Inc. ("NiSource") to verify its greenhouse gas (GHG) emissions inventory for its North America operations for the 2016 (calendar year) time period. NiSource is reporting 2016 GHG emissions as part of its response to the 2017 Carbon Disclosure Project (CDP) Investor Questionnaire. Pursuant to CDP provisions, NiSource has the option to have this annual report independently verified by an accredited Verification Body ("VB"). The GHG inventory compiled by NiSource and the GHG inventory verification performed by Trinity is a component of NiSource's long-term GHG management strategy.

NiSource has sole responsibility for the data collection, analysis, compilation, and external reporting of it GHG inventory. Trinity's verification and assurance engagement is based on the assumptions that the NiSource's data and information are sufficient, accurate and complete. Trinity's responsibility in performing the verification and assurance work is to the management of NiSource only and are solely for NiSource's benefit in accordance with the terms of the contract. Our assurance statement, however, represents Trinity's independent opinion and is intended to inform all stakeholders, including NiSource. Trinity disclaims any liability or responsibility on Trinity's work to CDP or to any other party who may have access to this statement or the verification report.

## Scope of Verification and Assurance

The scope of work agreed with NiSource includes the following:

- Organizational boundaries for the GHG inventory are all North America sites operating under NiSource's operational control;
- Verification was carried out to a limited level of assurance;
- Verification was conducted using the ISO 14064-3 Standard;
- The reporting of the GHG emissions were conducted using World Business Council for Sustainable Development (WBCSD) / World Resources Institute (WRI) Greenhouse Gas Protocol;
- GHG emissions were verified for the period of January 1st to December 31st, 2016;
- Emissions data verified includes Scope 1, Scope 2 and Scope 3 (Business travel and other indirect emissions); and
- Verification activities were conducted in May 2017.

## Verification Methodology

The objective of verification and assurance engagement by Trinity was to provide an independent and objective review of the emissions data report for North America enterprise-wide emissions for Scope 1, 2 and 3, for calendar year 2016. The emissions data report is reviewed against the criteria and standards stated below:

- World Resources Institute (WRI) / World Business Council for Sustainable Development (WBCSD) Greenhouse Gas Protocol - A Corporate Accounting and Reporting Standard
- ISO14064-3:2006 – Greenhouse Gases Part 3: Specification with Guidance for the Validation and Verification of Greenhouse Gas assertions.

Trinity applied a risk-based approach throughout the assurance engagement, concentrating on the areas that Trinity believe are at risk of materiality.

The following tasks and methodologies were applied during the verification of NiSource's GHG data, inventory, supporting documents, and management processes:

- Identify and review conformance with the accuracy level declared in the CDP information request response and the accuracy requirements using ISO 14064-3:2006 verification standards as appropriate;
- Review and verify emission estimates with the applicable GHG emission calculations/reporting protocols and principles such as WRI/WBCSD Greenhouse Gas Protocol;
- Review and verify GHG facility data for completeness and accuracy;
- Review a selection of data provided from a sampling of NiSource facilities (Michigan City, R.M. Schahfer, Sugar Creek, and Bailly) which is consistent with the selected level of assurance;
- Review NiSource's data management systems for emission data, transactions, bookkeeping records, reports, and compliance documents;
- Evaluate and check materiality of any misstatement in actual data;
- Review, identify, and list all deficiencies and conformance gaps; and
- Provide NiSource with an official verification statement with a verification summary that includes the findings of the verification process and any improvements and corrective actions taken

## Conclusions

NiSource's GHG assertions by Scope 1, Scope 2, and Scope 3 categories for calendar year 2016 are as follows:

- Scope 1 emissions of 12,266,516 metric tonnes CO2e
- Scope 2 emissions of 56,027 metric tonnes CO2e
- Scope 3 emissions of 3,652,183 metric tonnes CO2e

Based on verification activities performed, Trinity attests with a limited assurance that the submitted GHG assertions and/or emissions data report to CDP are free of material misstatements for each category of emissions including Scope 1, Scope 2, and Scope 3 emissions (i.e., the estimated percent error/discrepancy is less than 5% of the verified total for each Scope emissions). Trinity's conclusions are based on the assumptions that the data and information provided by NiSource to Trinity are true and complete.

## Independence

Trinity was not involved in the preparation of any part of NiSource's data or report. This is Trinity's first year of providing verification service for NiSource.

TRINITY CONSULTANTS

Charles C. Lee, Ph.D.
Principal Consultant
ARB accredited lead verifier

May 26, 2017

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