

- *NY Natural Gas Facts*
- New York State Energy Research and Development Authority (NYSERDA) published **Patterns and Trends, New York State Energy Profiles: 1991 – 2005** in January 2007 providing statistics for NY's energy usage and needs. Facts provided by the study include:
  - Natural gas is the cleanest burning fossil fuel.
  - Natural gas provides 29% of New York State's energy.
  - Use of natural gas in NY is:
    - 33% residential
    - 31% commercial
    - 25% electrical generation





## Allegany County Marcellus Shale Landowners Coalition

---

- *NY Natural Gas Facts*
- Natural gas usage is growing in NYS and has grown by 25% over the past 15 years.
- Total energy consumption in NYS over this time period has remained relatively constant.
- NYS ranks # 4 in energy consumption in the United States.
- Natural gas can be a substitute for coal, fuel oil, diesel and gasoline.
- Most heating apparatus can be readily converted to natural gas.
- Natural gas is an excellent fuel for powering internal combustion engines.
- Imagine filling your tank for \$1 a gallon.



### ■ *NY Natural Gas Facts*

- Natural gas is the most realistic “bridge fuel”.
- The subsidy for wind energy exceeds the cost of natural gas on a btu basis.
- As American weans itself away from reliance on foreign sources for 1/2 of its petroleum needs, natural gas will be the only viable alternative.
- Natural gas is also one of the best sources of hydrogen for fuel cells.





## Allegany County Marcellus Shale Landowners Coalition

---

- *NY Natural Gas Facts*
- The price of natural gas to the NYS consumer has nearly tripled in real terms over the last 15 years.
- Transportation of natural gas from western states and provinces accounts for approximately one quarter of the cost to the consumer.
- NYS produces only 4.6% of the natural gas that is consumed here.





## Allegheny County Marcellus Shale Landowners Coalition

---

- *NY Natural Gas Facts*
- New York needs more natural gas:
  - Cleanest burning fossil fuel
  - Demand increasing
  - Price increasing
  - Bridge Fuel





## Allegany County Marcellus Shale Landowners Coalition

---

- *Natural Gas Sources*
- Most of the large conventional natural gas fields in the U.S. have already been discovered.
- Only about 2% of U.S. natural gas supply comes from imported CNG/LNG.
- According to EIA, the domestic sources of natural gas remaining to be found will come from “unconventional” sources.
- Unconventional sources include tight sands, coal-bed methane and shale gas.
- Together, unconventional sources account for 40% of total domestic production.
- EIA predicts this share to be increasing in the future.





## Allegany County Marcellus Shale Landowners Coalition

---

- *Natural Gas Sources*
- The Barnett Shale in the Dallas - Fort Worth area is an important analog for shale gas development elsewhere in the country.
- The Barnett has been safely and successfully tapped for over a decade using modern drilling technology and fracturing techniques.
- These techniques have now been successfully utilized in other areas including in the Marcellus Shale in Pennsylvania and West Virginia for several years.
- Horizontal drilling has been used in New York for over a decade and was utilized extensively in developing the Black River gas fields near Corning.





## Allegany County Marcellus Shale Landowners Coalition

---

- *The Marcellus Shale*
- The Appalachian Basin has been called the most drilled, least explored basin.
- Shallow drilling for oil and natural gas has been taking place for nearly 150 years in our region.
- Deep drilling has been sporadic and largely unsuccessful.
- Scientists have studied the rocks underlying our area by utilizing seismic technology and testing the logs, cores and samples taken from existing wells.
- Based on this scientific evidence, we believe that the Marcellus Shale in our area can be successfully stimulated to release its bounty of natural gas.





## Allegany County Marcellus Shale Landowners Coalition

---

- *The Oil & Gas Lease*
- In order for drillers to exploit the natural gas resources in our region, it is necessary for them to secure a contractual relationship with the owners of the gas rights.
- This relationship is governed by an Oil & Gas Lease.
- An Oil & Gas Lease grants rights to explore lands and the right to drill wells in order to extract natural gas from reservoirs such as the Marcellus Shale.
- Each Oil & Gas Lease contains unique contractual terms, and must be studied before signing, clearly all leases are not created equally.





## Allegany County Marcellus Shale Landowners Coalition

---

- *Our Oil & Gas Lease*
- We have devised an Oil & Gas Lease that provides important protections to the owner while remaining commercially reasonable.
- Our Lease grants the Lessee the right to explore, drill and extract natural gas from the lands of the owner for a term of 5 years (plus an optional 3 year extension for an additional fee) and so long thereafter as there is production from a well on the lands or other lands pooled together with the lands in units not to exceed 640 acres.
- Our lease reserves to the Lessor a royalty share of the proceeds of sale of natural gas, free of the cost of drilling and completing the well, and free of any expenses incurred in making the gas marketable.



### ■ *Our Oil & Gas Lease*

- Our Lease also reserves to the Lessor the right to take free gas, or payment in lieu of free gas, from any well on the premises for residential uses up to 250 thousand cubic feet per year.
  - 250 mcf is generally more than adequate for annual heating and cooking purposes.
- In order to preserve use of the “shallow” oil & gas zones to the landowner, development rights granted under our Lease commence at the top of the Rhinestreet formation.
- In order to minimize surface impacts, our Lease restricts the rights of ingress and egress to the land to that necessary to enable Lessee to carry out the purposes of the Lease.



- *Our Oil & Gas Lease*
- Our Lease requires surface restoration upon completion of the work including, but not limited to, restoration of the original contours of the land, re-fertilization and seeding of the affected areas and placement of appropriate erosion control.
- Our Lease protects the owner from liability by requiring the Lessee to assume all liability for, and indemnify and defend the owner from and against all claims, including but not limited to, personal or property damage and surface, subsurface, fresh water, treatable water or other pollution, and requires Lessee to pay all expenses incurred as a result of such claims including but not limited to all legal expenses.



- *Our Oil & Gas Lease*
- Our Lease requires the Lessee to take water samples before and after drilling and to restore any adversely affected water supply to its pre-drilling condition.
- Our Lease requires that if any clearing activities are conducted by the Lessee that the Lessee cut, skid and stack all timber and polewood at a landing convenient to the owner.
- Our Lease requires that the Lessee reimburse the owner for any roll-back or penalty imposed by reason of the owner's loss of any existing forest land real property tax exemption or "clean and green" tax exemption.



- *Our Oil & Gas Lease*
- Our Lease does not grant any rights to store or dispose of substances in underground strata.
- Our Lease requires reasonable accommodation of the surface uses of the land.
- Our Lease does not contain a title warranty clause, but the owner does covenant that he has not encumbered the leased premises in any way.
- Our Lease provides that a mortgage is not a valid objection to title.
- Our Lease contains a shut-in royalty clause.
- Our Lease contains requirements for fencing.
- Our Lease calls for automatic termination upon the bankruptcy of Lessee.



- *NYS Rules & Regulations*
- Other protections are provided for the owner pursuant to state law.
- The regulations are designed to protect correlative rights and the environment and to prevent waste.
- The full text of the laws and regulations are provided at the DEC website.
- Spacing varies depending on the type of well, but is generally 36 – 40 acres for a vertical Marcellus.
- Specifically, the wellbore within the target formation must be set back 660' from the property or unit boundary.
- For a horizontal well with a reach of 3000', the spacing éclair results in a drainage area of approximately 120 acres.





## Allegany County Marcellus Shale Landowners Coalition

---

- *NYS Rules & Regulations*
- Staff of DEC's Division of Mineral Resources are all highly trained and well qualified for drafting permits and inspecting drilling sites. Most oil and gas regulatory staff are petroleum engineers, petroleum geologists or technicians.
- Allegany County is located in DEC Region 9 and the regional minerals office is located in Allegany.
- NYS DEC also regulates operating practices to ensure the prevention of waste and pollution, and ultimately the proper closure of wells when they reach the end of their productive lives.
- Financial security is required of each operator to assure proper closure.





## Allegany County Marcellus Shale Landowners Coalition

---

- *NYS Rules & Regulations*
- DEC requires annual reports to be filed by all operators that become public records at the regional DEC office and may be examined by interested parties by making an appointment with Staff.
- Included are annual production reports, which both the operator and the purchaser must file showing annual production on a well-by-well basis.
- We are fortunate in New York to have such a wealth of information available from the DEC.
- The DEC website is very informative and the DEC Staff are very helpful to the general public.





## Allegany County Marcellus Shale Landowners Coalition

---

- *NYS Rules & Regulations*
- DEC requires that drilling operations be compliant with SEQR and the supplemental generic environmental impact statement.
- Site specific permit conditions may be imposed by DEC in relation to the drilling of any well.
- Drilling permits protect groundwater by mandating a casing and cementing program for each well. Casing and cementing prevent the flow of oil, gas or salt water between underground formations. In addition, drilling rules and regulations require setbacks from municipal and private water wells, surface water bodies and streams.





## Allegany County Marcellus Shale Landowners Coalition

---

### ■ *Other Resources*

- Other outstanding public resources available are the New York State Museum and the New York State Energy Research and Development Authority.
- Both have comprehensive websites.
- New York State is also proud to be the home of two outstanding industry associations.
- New York State Oil Producers Association (NYSOPA), with headquarters in Bolivar, NY. Established in 1918.
- Independent Oil & Gas Association of NY (IOGA-NY) with headquarters in Lakeview, NY. Established in 1980.

