Marcellus Shale Page
Chesapeake Energy Corporation
Corporate page describes economic benefits of Marcellus Shale mining in local communities.

Modern Shale Gas Development in the United States: A Primer
U.S. Department of Energy
Collaborative 2009 report with the Ground Water Protection Council summarizes the geological, economic, regulatory, and environmental aspects of producing natural gas from shale formations such as the Marcellus Shale.

“Researchers: Shale holds vast supply of natural gas”
Buffalo Business First
2008 news article includes Marcellus Shale natural gas supply estimates from Fredonia State College geology professor Gary Lash.

“Got gas, lots”
Pittsburgh Tribune-Review 2008 opinion article contains revised Marcellus shale natural gas supply estimates from Penn State professor Terry Engelder, a research partner of Gary Lash. Lash and Engelder also run a Marcellus consulting firm, Appalachian Fracture Systems, Inc. (http://www.geosc.psu.edu/~engelder/AFS/AFSindex.html)

“Texas company to search for gas in Somerset County”
Daily American (Somerset County Newspaper)
2008 news article describes shale gas activities of Chief Oil & Gas, LLC and Pennsylvania Mineral Group in Somerset County (southwest PA), including financial impact on local landowners.

“Seven Plays dominate North American Activity”
Oil and Gas Journal
2009 report by Scott Stevens and Vello Kuuskraa lists companies drilling in the Marcellus Shale, particularly in northeast Pennsylvania.

Emily Lloyd Letter
Pro Publica
Emily Lloyd, the New York City Department of Environmental Protection Commissioner, voices her concerns to state officials about shale mining effects on New York City’s water supply, putting forth several recommendations to further regulate and curtail mining operations.

http://catskillmountainkeeper.org/node/290
Marcellus Shale Page
Catskill Mountainkeeper
This community organization webpage provides a wealth of information about environmental hazards, regulatory concerns, pipeline networks, and public debate about shale drilling in southeast New York, including a long list of links at the end of the page.

http://www.sungazette.com/page/content.detail/id/511100.html
“Gas Drilling: Companies told to stop operations”
Williamsport Sun-Gazette
This article details violations of the Pennsylvania Clean Streams Law committed by two oil companies (Appalachia LLC and Chief Oil and Gas LLC) in Lycoming County in May 2008.

“Sunday Forum: Full of gas”
Pittsburgh Post-Gazette
This opinion article, written by Penn State geosciences professor Terry Engelder, cautions landowners to explore their options when approached by natural gas companies looking to drill into the Marcellus Shale.

“Fractured Relations – New York City Sees Drilling as Threat to Its Water Supply”
Pro Publica
This article details New York City’s attempts to intervene in Marcellus drilling to protect the city’s water supply.

“Natural Gas Drilling: What We Don’t Know”
Pro Publica
This recent (December 31, 2009) report by Abrahm Lustgarten summarizes Pro Publica’s investigation into hydraulic fracturing environmental concerns and the regulatory shortcomings surrounding natural gas drilling.

Pro Publica Gas Drilling Investigation Page
“State Oil and Gas Regulators Are Spread Too Thin to Do Their Jobs”
This article examines the shortage of gas regulation employees in some states, including New York.

“New York City Calls for Drilling Ban in Watershed, Rejects State Study”
Pro Publica
New York City officials urged state officials to ban Marcellus drilling in the city’s watershed upon receiving the results of a consulting firm’s environmental report.

New York City Department of Environmental Protection
This report, written by the consulting firm Hazen and Sawyer, caused New York City to request a ban on natural gas drilling in the city’s watershed.

http://www.dec.ny.gov/energy/58440.html
Draft Supplemental Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program
New York State Department of Environmental Conservation
This controversial New York State draft report does not call for a ban of drilling within New York City’s watershed.

“New York State Paves Way for Gas Drilling With Release of Environmental Review”
Pro Publica
This article covers the release of New York State’s SGEIS report (see above).

“New York Drilling Study a Step Forward
Pro Publica
This article analyzes the contents of New York State’s SGEIS report.

http://www.propublica.org/feature/water-problems-from-drilling-are-more-frequent-than-officials-said-731
“Water Problems From Drilling Are More Frequent Than PA Officials Said”
Pro Publica
This article details groundwater methane contamination caused by natural gas drilling in Pennsylvania.

“Frack Fluid Spill in Dimock Contaminates Stream, Killing Fish”
Pro Publica
This article details a drilling fluid spill at a Cabot Oil and Gas well in northeast Pennsylvania which contaminated a stream with several chemicals, including a possible carcinogen manufactured by Halliburton.

“DEP Issues Citation to Pennsylvania Driller as a Third Spill Occurs”
Pro Publica
After several September 2009 spills at drilling sites in Dimock, Pennsylvania, state Department of Environmental Protection officials issued citations to Cabot Oil and Gas.

“Pennsylvania Orders Cabot Oil and Gas to Stop Fracturing in Troubled County”
Pro Publica
Pennsylvania officials called for Cabot Oil and Gas to cease hydraulic fracturing operations in Susquehanna County after several chemical spills.

“With Natural Gas Drilling Boom, Pennsylvania Faces an Onslaught of Wastewater”
Pro Publica
This article reveals the lax standards for disposing of hydraulic fracturing wastewater in Pennsylvania as most wastewater is treated in sewage plants unequipped to remove salty Total Dissolved Solids (TDS) from the water.

“Pennsylvania Tells Drilling Company to Clean Up Its Act”
Pro Publica
Pennsylvania fined Cabot Oil and Gas $120,000 and issued a set of additional regulations the company must follow after several spills in northeast Pennsylvania.

http://www.propublica.org/feature/pa-residents-sue-gas-driller-for-contamination-health-concerns-1120
“Pa. Residents Sue Gas Driller for Contamination, Health Concerns”
Pro Publica
A group of 15 Dimock, Pennsylvania families filed a civil suit against Cabot Oil and Gas in November 2009 seeking medical funds and compensation for lowered property values caused by chemical spills.

http://www.opencongress.org/bill/111-h2766/text
Official Text of H.R.2766 as Introduced in the House
Open Congress
This bill introduced by Colorado and New York representatives in the House that would end the “Halliburton Loophole” in the Safe Drinking Water Act.

http://www.earthworksaction.org/PR_2009HalliburtonLeg.cfm
“Senators, Representatives act to close Halliburton Loophole in the Safe Drinking Water Act”
Earthworks
This article covers the introduction of H.R.2766 (see above).

http://www.earthworksaction.org/pubs/OGAPMarcellusShaleReport-6-12-08.pdf
Shale Gas: Focus on the Marcellus Shale
Oil & Gas Accountability Project, Earthworks
This May 2008 report by Lisa Sumi provides an overview of shale drilling and discusses some chemical concerns about the Marcellus Shale.

http://www.damascuscitizens.org/
Main Page
Damascus Citizens for Sustainability
This nonprofit organization voices environmental concerns about shale drilling in northeast Pennsylvania.

http://www.thedailystar.com/local/local_story_021040033.html
“No ‘simple answer’ to impact of gas drilling on land value”
Daily Star (Oneonta, NY)
This article finds that the impact of gas leases on property values can vary case by case.

http://www.dec.ny.gov/energy/46288.html#Information
Marcellus Shale Page
New York State Department of Environmental Conservation

http://www.dep.state.pa.us/dep/deputate/minres/oilgas/new_forms/marcellus/marcellus.htm
Marcellus Shale Page
Pennsylvania Department of Environmental Protection

http://www.news.cornell.edu/stories/Dec09/MarcellusPanel.html
“Marcellus Shale gas drilling panel addresses controversies”
Cornell Chronicle
This article covers Cornell’s recent Marcellus Shale panel.

http://gasleasing.cce.cornell.edu/fairway.html
“Where is the Marcellus Shale being developed?”
Cornell University
This page explores the geological background behind popular shale drilling locations.

Water Resources and Natural Gas Production from the Marcellus Shale
U.S. Geological Survey
This short report raises water concerns surrounding shale drilling and offers some possible solutions for disposing wastewater associated with hydraulic fracturing.

http://gis.bakerhughesdirect.com/RigCounts/Attributes.aspx
Pennsylvania Gas Well Attributes
Baker Hughes Incorporated
This page displays the contractors, names, trajectories (vertical or horizontal), and locations of Pennsylvania gas wells as of January 22, 2010.

http://gis.bakerhughesdirect.com/RigCounts/default2.aspx
Baker Hughes Rig Counts
Baker Hughes Incorporated
This map displays natural gas rig locations across the United States.

Emerging Trends in the Marcellus Shale
Cornell University
This research brief examines social, political, and law trends surrounding shale drilling in New York and Pennsylvania, specifically the emergence of landowner advocacy groups and community task forces.

http://gasleasing.cce.cornell.edu/
Main Page
Cornell University Cooperative Extension Natural Gas Development Resource Center

http://gasleasing.cce.cornell.edu/team.html
CCE/Cornell Marcellus Shale Team
Cornell University
This page lists contacts at Cornell for different Marcellus Shale issues.
marcellusshale@cornell.edu

http://naturalgas.extension.psu.edu/
Natural Gas Impacts Page
Penn State College of Agricultural Sciences Cooperative Extension

An Emerging Giant: Prospects and Economic Impacts of Developing the Marcellus Shale Natural Gas Play
Penn State College of Earth and Mineral Sciences
This report projects the economic benefits Pennsylvania has received and could receive in the future from Marcellus drilling and criticizes Governor Rendell’s proposed severance tax on Marcellus natural gas along with efforts to strengthen environmental regulations.

“Rendell to revive request for severance tax on Marcellus natural gas”
Pittsburgh Tribune-Review
This January 15, 2010 article reveals that Governor Rendell will again push for a natural gas severance tax after retracting the proposal amidst Pennsylvania’s budget troubles in 2009.

Pennsylvania Department of Environmental Protection – Cabot Oil and Gas Consent Order and Agreement (November 4, 2009)
Pro Publica
This official document specifically details violations committed by Cabot Oil and Gas in northeast Pennsylvania and outlines several punishments including a $120,000 fine to the state.

http://pubs.cas.psu.edu/FreePubs/pdfs/ui394.pdf
Penn State College of Agricultural Sciences Cooperative Extension
This publication explores liability, property, timber, and financial issues Pennsylvania landowners face when negotiating natural gas leases.

http://downloads.cas.psu.edu/naturalgas/pdf/LandownerGroup.pdf
“Should You Join a Landowner Group?”
Penn State College of Agricultural Sciences Cooperative Extension
This short report discusses the structure of landowner groups and offers advice to landowners who are considering leasing their property to natural gas companies.

http://pubs.cas.psu.edu/FreePubs/pdfs/ua448.pdf
Natural Gas Exploration: A Landowner’s Guide to Leasing Land in Pennsylvania
Penn State College of Agricultural Sciences Cooperative Extension
This report discusses the decision process of negotiating a natural gas lease and stresses that landowners should explore their options and hire attorneys to aid in the leasing process.

http://www.wpsu.org/gasrush/index.php
Pennsylvania’s Gas Rush: Uncovering the Impact of Natural Gas Development
WPSU
This site contains a video archive of several natural gas panels and interviews with Penn State Professor of Geosciences Terry Engelder and Penn State Cooperative Extension Educator Tom Murphy
http://www.wpsu.org/gasrush/experts.html
Marcellus Expert Panel Lists
WPSU
This page lists people that participated in Marcellus Shale expert panels on WPSU in 2008.

http://naturalgas.extension.psu.edu/Events.htm
Natural Gas Impacts: Events
Penn State College of Agricultural Sciences Cooperative Extension
Several of these events list names of presenters.

http://www.wpsu.org/gasrush/events.html
Pennsylvania’s Gas Rush: Upcoming Events
WPSU
Although these events seem to have taken place in 2009, each event lists a presenter.

“You’ve leased your land, but haven’t been paid! Now what?”
Penn State College of Agricultural Sciences Cooperative Extension
This article offers landowners advice if gas companies have not abided by payment plans established in signed lease contracts.

http://naturalgas.extension.psu.edu/Economic.htm
Natural Gas Impacts: Economic Issues
Penn State College of Agricultural Sciences Cooperative Extension
This page compares the economic impact of Barnett Shale drilling in Texas to the potential economic implications of Marcellus Shale drilling in Pennsylvania.

Sublette County Socioeconomic Impact Study: Phase I Final Report
Ecosystem Research Group
This report documents socioeconomic effects of gas drilling in Sublette County, Wyoming, including local inflation, employment figures, population trends, housing prices, infrastructure concerns, and cultural factors.

http://nercrd.psu.edu/Publications/rdppapers/rdp43.pdf
Energy Boomtowns & Natural Gas: Implications for Marcellus Shale Local Governments & Rural Communities
The Northeast Regional Center for Rural Development (Penn State)
This paper discusses the “Boomtown Impact Model” used to describe the socioeconomic effects of energy development on small communities (positive and negative), the Sublette County case study (see previous link), and advises local governments to form task forces to deal with the positive and negative implications of Marcellus Shale drilling.
Drilling for Dollars: An Assessment of the Ongoing and Expanding Economic Impact of Activity in the Barnett Shale on Fort Worth and the Surrounding Area  
The Perryman Group  
This slideshow focuses on the economic benefits incurred by Barnett Shale drilling in Texas and the multiplier effect.

Role of Oil & Gas Operations in the Economy of Elk, Forest, McLean, & Warren Counties  
Penn State Workforce Education & Development Initiative  
This research-in-brief examines the impact of oil and gas operations in several Northern Pennsylvania counties on employment, wages, and property taxes.

Potential Economic Impacts of Marcellus Shale in Pennsylvania: Reflections on the Perryman Group Analysis from Texas  
Penn State Cooperative Extension  
This short report by Timothy W. Kelsey, Ph.D. explores how lessons from the Barnett Shale drilling experience in Texas can be applied to the Marcellus Shale in Pennsylvania and how the two situations differ.

Shaping Proposed Changes to Pennsylvania’s Total Dissolved Solids Standard: A Guide to the Proposal and Commenting Process  
Penn State College of Agricultural Sciences Cooperative Extension  
This report discusses proposed changes to Pennsylvania’s water quality laws that would introduce new maximum effluent standards (which “apply to wastewater after it has been treated and before it is disposed of in a waterway”) for Total Dissolved Solids, sulfate, and chloride in public drinking water supply sources and maximum effluent standards for barium and strontium in oil and gas wastewater.

Proposed Rulemaking: 25 PA. Code Ch. 95, Wastewater Treatment Requirements  
Pennsylvania Bulletin  
This page lists and explains the proposed law changes for maximum effluent standards discussed above.

Avoiding and Mitigating Soil Compaction Associated with Natural Gas Development  
Penn State College of Agricultural Sciences Cooperative Extension  
This brief report discusses the detriments of topsoil and subsoil compaction, or reduction of soil volume, and advises citizens how to negotiate gas leases in order to minimize soil compaction and how to restore already compacted subsoil.
Water Withdrawals for Development of Marcellus Shale Gas in Pennsylvania: Introduction to Pennsylvania’s Water Resources

Penn State College of Agricultural Sciences Cooperative Extension

This report summarizes water issues surrounding Marcellus Shale drilling in Pennsylvania and examines the regulatory structure of agencies that protect water quality in Pennsylvania.

Marcellus Shale and Natural Gas Well Development Page

Susquehanna River Basin Commission

Natural Gas Drilling in the Delaware River Basin Page

Delaware River Basin Commission

Forest Landowners and Natural Gas Development: Timber Resources

Penn State College of Agricultural Sciences Cooperative Extension

This short publication discusses forestry issues which relate to natural gas drilling including compensation and protection concerns for landowners.

Forest Landowners and Natural Gas Development

Penn State College of Agricultural Sciences Cooperative Extension

In addition to the issues covered in the other timber report (see above), this publication provides perspective on wildlife issues and restoring a natural gas site after drilling as well as the construction of drilling pads, roads, and pipelines on landowner property.

Water Facts #28: Gas Well Drilling and Your Private Water Supply

Penn State College of Agricultural Sciences Cooperative Extension

This report summarizes water protection regulations under the Oil and Gas Act of 1984 and outlines water supply protection strategies for landowners.

These articles, written by Saul Ewing Oil and Gas Practice Group Partner George Asimos, discuss recent Pennsylvania Supreme Court decisions which affect municipal zoning laws for natural gas drilling.
http://pubs.cas.psu.edu/freepubs/pdfs/ua459.pdf
*Questions Citizens and Local Leaders Should Be Asking*  
Penn State College of Agricultural Sciences Cooperative Extension  
This report puts forth socioeconomic, environmental, and policy questions about Marcellus Shale drilling and provides some guidance to answering these questions.

http://downloads.cas.psu.edu/naturalgas/pdf/PIFER_NGmunicipalRegPA.pdf  
“Natural Gas and Municipal Regulation in Pennsylvania”  
Penn State College of Agricultural Sciences Cooperative Extension  
This sheet briefly summarizes several laws which dictate the powers and limitations of municipal governments in relation to gas drilling.

http://downloads.cas.psu.edu/naturalgas/pdf/Fed_tax.pdf  
“Natural Gas Income and Federal Income Tax”  
Penn State College of Agricultural Sciences Cooperative Extension  
This short paper provides tax information to landowners about income received from natural gas leases and other payments.

http://downloads.cas.psu.edu/naturalgas/pdf/NaturalGasIncome.pdf  
“Natural Gas Income: Year-end strategies that can reduce the tax bite”  
Penn State College of Agricultural Sciences Cooperative Extension  
This article advises landowners to consult a financial professional about paying taxes on natural gas income.

http://downloads.cas.psu.edu/naturalgas/pdf/PA_tax_QA1-09.pdf  
“Natural Gas Income and Pennsylvania Personal Income Tax”  
Penn State College of Agricultural Sciences Cooperative Extension  
This question and answer article explores tax procedures reporting natural gas income.

http://pubs.cas.psu.edu/FreePubs/pdfs/ua453.pdf  
*Gas Leasing Scams and Rip-Offs: Ways to Separate You from Your Property Rights and Money*  
Penn State College of Agricultural Sciences Cooperative Extension  
This report cautions landowners to be wary of leasing contracts and points out several warning signs that landowners should check before signing a lease.

http://naturalgas.extension.psu.edu/Publications.htm  
Natural Gas Publications Page  
Penn State College of Agricultural Sciences Cooperative Extension  
http://naturalgas.extension.psu.edu/Devonian-Marcellus-Formation-Maps.htm  
Devonian Marcellus Formation Maps  
Penn State College of Agricultural Sciences Cooperative Extension
Natural Gas Wells Mapper
Natural Gas Lease Forum for Landowners
This page contains several useful maps under the “Marcellus Shale and TBR Maps” heading.

Forum to address costs and benefits of shale gas extraction
Pocono Record
This NE PA forum will “include Terry Engelder, professor of geosciences at Pennsylvania State University; Dave Messersmith, a Marcellus Education Team member at Penn State Cooperative Extension; Joy Tetlak-Adelstein, northeastern Pennsylvania outreach coordinator at PennFuture; Craig Todd, manager of the Monroe County Conservation District; and Tracy Carluccio, deputy director of the Delaware Riverkeeper Network.”

Residents need to realize risks involving natural gas drilling
Pocono Record
State Representative John Siptroth voices concerns about drilling in state forest land and calls for a severance tax on gas drillers.

Anadarko, Mitsui agree to Marcellus Shale venture
Associated Press
This article details a deal between Japanese conglomerate Mitsui & Co. and Anadarko Petroleum Corp. which gives Mitsui a $1.4 billion stake of Anadarko’s assets in the Marcellus Shale.

County anticipates $84 million in transportation projects
Williamsport Sun-Gazette
Natural gas drilling has increased traffic at the Williamsport Regional Airport and the Lycoming Valley Railroad.

Marcellus Shale: Natural Gas Development in our Region
Williamsport Sun-Gazette
This page is a database of Marcellus stories in the Williamsport Sun-Gazette.

Dozens turn out to oppose gas drilling in Matamoras in Wayne County
Scranton Times-Tribune
At a Wayne County public hearing, members of the Damascus Citizens for Sustainability and other community activists spoke out against two natural gas permit applications from Stone Energy Corp. to withdraw water from the West Branch of the Lackawaxen River.

http://www.sungazette.com/page/content.detail/id/539552.html?nav=5011
“Proposed water pump site at Hyner drawing the ire of sportsmen”
Williamsport Sun-Gazette
The Western Clinton County Sportsman’s Association has opposed “a request by Anadarko Petroleum Corp. to withdraw water from the Susquehanna River near the Hyner Bridge” in order to preserve the view from the bridge.

http://www.lockhaven.com/page/content.detail/id/516589.html
“Commissioners urge approval of water withdrawal”
Lock Haven Express
The three Clinton County Commissioners voiced approval to an Anadarko water pump near the Hyner Bridge, and the Chapman Township Zoning Hearing Board must decide whether to approve Anadarko’s request to pump water at the site after an indecisive meeting in February 2010.

http://www.sungazette.com/page/content.detail/id/539535.html?nav=5014
“New ventures in natural gas may take Tioga County from ‘rags to riches’”
Williamsport Sun-Gazette
This short article discusses the possible economic and housing impacts of natural gas drilling on Tioga County.

http://www.sungazette.com/page/content.detail/id/539554.html?nav=5011
“Anadarko plans 7-mile gas pipeline in Clinton County”
Williamsport Sun-Gazette
This article describes a proposed natural gas pipeline which will travel through Sproul State Forest and some private property.

http://www.sungazette.com/page/content.detail/id/539249.html
“DEP approves gas drilling wastewater permit”
Williamsport Sun-Gazette
The Pennsylvania Department of Environmental protection will permit TerrAqua Resource Management LLC to build a gas wastewater treatment plant that will discharge water into the West Branch of the Susquehanna River.

http://www.sungazette.com/page/content.detail/id/539051.html
“Frac water treatment plant may come to Castanea”
Williamsport Sun-Gazette
Patriot Water Treatment LLC is interested in establishing a frac water treatment plant in Castanea which would utilize heat in a distilling process to purify the water.
"Seminar focuses on traffic from drilling"
Williamsport Sun-Gazette
This article discusses state and local weight limit laws for traffic on roads as well as other transportation concerns relating to natural gas extraction near Williamsport.

"Gas firm promises to repair damages to road"
Williamsport Sun-Gazette
This short article describes negotiations between Chief Gas and Oil Co. and Penn Township to establish the gas company’s bond to pay for possible road damage caused by heavy vehicles.

"Scientists search for best treatment"
Williamsport Sun-Gazette
This article, which mentions Bucknell engineering professor Kevin Gilmore, explains several frac water treatment options and consequences of natural gas drilling on the local water supply.

"Summit: ‘Huge’ resource needs mindful growth"
Williamsport Sun-Gazette
This article, which mentions Bucknell geology professor Carl Kirby, discusses drilling methods and flowback water.

"Summit kick-off draws surprising crowds"
Williamsport Sun-Gazette
This article (along with the previous two links above) covers a well-attended summit at Lycoming College on the “science of the Marcellus Shale”.

"Gas well incident hurts 3"
Williamsport Sun-Gazette
This short article details a gas well accident in Northern Pennsylvania near the border of Bradford and Wyoming counties.

"Meeting needs of gas drillers a sound strategy"
Williamsport Sun-Gazette
This short article details a seminar that discussed local business efforts to meet demands of gas drillers.
“Some Tioga County residents opposed to gas industry water ‘farm’ on Johnson Hill”
Williamsport Sun-Gazette
Several Tioga County residents, citing environmental and property value concerns, refuse to grant right of way for East Resources Inc. to build access roads through the residents’ property.

“College funded for future gas workers”
Williamsport Sun-Gazette
Anadarko Petroleum Corporation donated $15,000 to the Pennsylvania College of Technology to help fund Marcellus Shale development training courses.

“Officials shut down 2 renegade drilling pads near state line”
Williamsport Sun-Gazette
The Susquehanna River Basin Commission shut down drilling pads owned by Novus Operating LLC because the Texas company did not apply for prior approval before drilling.