



Energy Issues and Climate Change Hydraulic Fracturing for Natural Gas in the Diocese of Rochester

Deep under much of New York's Southern Tier, north into the Finger Lakes area, rich deposits of natural gas lie imbedded in the Marcellus shale formation. Underneath the Marcellus shale lies the even larger Utica shale formation which extends well out into Lake Ontario. Because this gas is embedded as bubbles scattered throughout the shale, it's challenging to access, so companies are using a process called hydraulic fracturing, or hydrofracking, to obtain the gas.

Although hydrofracking is already being used in some vertical wells in New York State, the state currently has a moratorium on horizontal hydrofracking while further investigations into ensuring the safety of groundwater are conducted. Although many communities and landowners are looking forward to the income from sale and leasing of mineral rights as well as the influx of jobs, many others have profound concerns about the long-term environmental, social and economic impact of Hydraulic fracturing for natural gas.

As Catholics, we are called to be engaged in decisions that impact the well-being of our communities as well as decisions that might bring harm or good to others who share our planet. Because of its great potential to change the nature of our communities, we encourage Catholics throughout the Diocese of Rochester to be informed and engaged about this process. Below are some things to consider:

- Some of the chemicals used in hydraulic fracturing for gas are known to cause human health problems.
- Each well site emits air pollution in addition to diesel pollution from increased truck traffic to/from gas drilling sites (estimate is 600 truck trips per site during drilling/fracking).
- Hydraulic fracturing for gas could transform the rural countryside into industrial well pad sites. Sixteen wells per square mile could be drilled in the Marcellus Shale of New York. Gas companies have projected drilling 60,000 wells in a seven county region of New York.
- In hydraulic fracturing, as many as nine million gallons of fluid (water, chemicals, sand) are pumped into the well under very high pressure to break up the rock. By 2010, 100 billion gallons per year of fresh water could be turned into fracking fluid. Between 30-70% of this fluid (called flowback), which could contain radioactive materials and other compounds such as arsenic, could come back up through the well bore (opening) and could be stored in a plastic-lined pit on the property. New York State has no clear plan or regulations on how to deal with this flowback fluid.
- While natural gas is the cleanest of all fossil fuels (gas, coal and oil), natural gas extraction impacts air quality and releases greenhouse gases into earth's atmosphere. Greenhouse gasses trap heat in the atmosphere and this is altering earth's climate.

- Scientific findings document that earth's climate is being altered by the greenhouse gases trapped in the atmosphere. For example, Catholic Relief Services staff have observed changes in weather patterns affecting agriculture and water sources in Africa. Gas, oil, coal (fossil fuels) used to produce energy worldwide are primary sources of greenhouse gas emissions.
- Some economists suggest that a focus on *clean, renewable, sustainable* energy development could create jobs for the U.S. economy and help reduce the climate-altering emissions (from gas, oil, coal) that get trapped in earth's atmosphere.
- It is estimated that gas from the Marcellus shale formation could meet the natural gas needs in the U.S. for up to 30 years. Eventually, we will need to shift to other fuel sources. Should we be putting our energy into finding alternative fuel sources and new ways of conserving so that our gas lasts even longer? What are we leaving our grandchildren?
- **Potential benefits** of natural gas extraction in the Marcellus Shale of New York State could include: increased wealth for some, increased revenues for water purchased from municipal water companies and for leasing of public land, expanded employment in businesses servicing the gas drilling sector (hospitality, retail, legal, construction etc), increased charitable giving, increased owner occupied housing.
- **Among the potential costs:** increase in non-violent crime, increased road maintenance/repair, increased number of working poor, increased demand on emergency responders, increased need for health care, radioactive waste, increased demand for temporary housing, social conflicts due to influx of gas workers and increased costs to community members who may not have benefited from the gas boom. For more detail on costs/benefits see: *Marcellus Shale Natural Gas: From the Ground to the Customer* Pennsylvania League of Women Voters www.palwv.org/Indiana
- **To view maps** of the Marcellus and Utica shale formations go to <http://geology.com/articles/utica-shale/>, <http://geology.com/articles/marcellus-shale.shtml>