Hydraulic Fracturing, Fossil Fuels, And Health Concerns:
Position of The Canadian Association of Physicians for The Environment -Quebec

December 2018

The hydraulic fracturing industry for fossil fuel exploration and exploitation has been developing around the world for several decades, and has been booming in North America for the past decade. Unfortunately before the establishment of this industry, no study of the health status of populations living near the drilling sites was conducted. As a result, it is now very difficult to measure the precise impact on the overall health of the local population. However for half a dozen years, several major studies in public health have been carried out. These demonstrate a certain deleterious impact on the health of populations at several levels, the impact of which remains to be clarified in the studies in progress. Of the thousand fracturing chemicals used, 90% are toxic to humans (1).

The disturbing associations are of several kinds: It has thus been reported that a significant increase in the rate of babies of small weights in several studies (2, 3, 4), an increase in the risk of premature babies (5), and a higher risk of cardiac and neurological malformations in infants whose pregnant mothers lived up to several kilometers from the drilling sites (6). An association between this industry and an increased incidence of one type of leukemia in youth (acute lymphoblastic leukemia) has also been demonstrated (7). Finally, several otorhinolaryngological, respiratory, cardiological, neurological and dermatological problems have been reported in populations exposed to boreholes (8, 9, 10). There is, moreover, a clear association between the hospitalization rate for many of these health problems and the density of the wells (11).

The environmental problems associated with the industry are of great concern: In addition to air and water pollution, several cases of groundwater contamination have been described, sometimes in a major way (1). Publications also report a significant increase in accidents associated with intensive trucking around wells (1). Moreover, in regions where drilling activity is important, the risk of earthquakes is significantly increased (1). This has been confirmed by the geologists' associations on both the American and Canadian sides. The state of health of the workers exposed to this industry is very worrying. They are exposed to often high levels of benzene, hydrogen sulphide, silica, fine particles and many other pollutants. Unfortunately this is poorly documented and followed by the industry. The risk of accidents is also significantly higher than in many other industrial activities (1, 12, 13).

It must also be emphasized that the impact of the arrival of this industry in a community is important both psychologically and socially. Several communities complain about the intense stress caused by the presence of continuous industrial activity, divisions that appear among the population, and the feeling of insecurity associated with it (14,15,16). The destruction of the environment also has a major impact on several groups: agricultural land subject to water and air pollution, destruction of places of significance for communities (17). And this can be particularly harmful for some communities whose social fabric is already weakened. This is the case for First Nations (1).

Finally, we must highlight the major negative impact on the climate: Methane emissions are such that they completely cancel the profit boasted by this industry. Several groups believe that the deleterious effect on the climate is worse with hydraulic fracturing, because methane and ethane are emitted into the environment, continuously or during major leaks (1). Should we remember that global warming is the most important public health problem of humanity?

In conclusion, the risks to health are of many kinds, both biological and psychological and social and they seem to us major. Several North American medical companies have recalled their great concern about this industry a few years ago. Among the most important are the American Academy of Pediatrics, the American Lung Association and the New York State Medical Society (1).

As a result, the Canadian Association of Physicians for the Environment has come up with the following recommendations:

1. The Canadian Association of Physicians for the Environment calls for a complete ban on any new hydraulic fracturing project.

2. In addition, the Quebec Section of the Canadian Association of Physicians for the Environment is calling for a halt to all fossil fuel exploration and extraction projects in Quebec.

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PRINCIPALES RÉFÉRENCES :

1. Compendium of scientific, medical, amd media findings demontrating risks and harms of fracking (unconventional gas and oil extraction). Fifth Edition March 2018. Concerned Health Professionals of NY – Physicians for Social Responsibility

2. Shale Gas Development and Infant Health: Evidence from Pennsylvania. Hill Elaine L. Cornell University. The Charles H Dyson School of Applied Economics and Development. Ithaca, NY December 2013

3. Perinatal outcomes and unconventional natural gas operations in southwest Pennsylvania. Stacey SL et al. Plos One.DOI:10.1371/journal.pone.0126425 June 03,2015

4. Hydraulic fracturing and infant health : New evidence from Pennsylvania. Currie J el al. Science Advances 2017;3:e1603021 - 13.12.2017

5. Unconventional natural gas development and birth outcomes in Pennsylvania, USA. Casey JA et al. Epidemiology 2016;27:163-172