



## THE EXPLOITATION OF SHALE GAS – A GRAVE PERIL FOR HUMAN HEALTH AND LIFE

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**Abstract:** *In recent years the American example is evoked insistently for the exploitation of shale gas. The main argument for this exploitation is the positive impact of this exploitation for the energy crisis. A movie produced by Americans who are concerned about the serious human consequences of shale gas exploitation, and which was broadcasted by many televisions including Romanian ones – shows terrifying images: „the tap water that was drinkable before drilling for shale gas started to burst into fire when lighting a match, after shale gas exploitation.”*

**Key words:**

Shale gas,  
exploration,  
exploitation,  
environment

### 1. Introduction

The world at the beginning of this new millennium and century is marked by two major phenomena: integration, on a regional scale<sup>1</sup>; globalization, at world scale<sup>2</sup>. The exploitation of shale gas represents a component of the increasingly aggressive processed of globalization<sup>3</sup>.

The battle for acquiring resources and for their valorification has taken forms that are often violent and the valorification of these resources benefits almost exclusively the transnational companies<sup>4</sup>.

A very broad discussion takes place on shale gas. Two opinions confront each other: a. if the needs imposed by energy consumption can be covered by shale gas, why not capitalize on this possibility?; b. considering that shale gas has serious implications for human health and life, why should the huge profits of multinational companies be the priority? Many analysts argue that - in this case - health and life should be considered first.

### 2. Shale gas exploitation in the United States - between profit and extremely serious human consequences

In recent years, the American example in shale gas is evoked with extraordinary persistence. The main argument is the impact of the exploitation of these gases on the energy crisis. Andrew Place - Interim Executive Director of the Center for Sustainable Development of shale gas in Pittsburgh, Pennsylvania - argues that "shale gas in the United States has

contributed substantially to the solution of major problems in the energy sector."

The American example is evoked in order to highlight the economic benefits of shale gas, and they are obvious. The most active company in the field is Chevron. In the world battle for the discovery of new energy sources, the United States managed, by exploiting shale gas, to provide hope for a solution expected to last even for a longer period of time, given that it was found that America has large reserves of shale gas.

However, the exploration, development and exploitation of gas raise serious environmental problems. We know that the United States is very large, which allows - in areas where shale gas was discovered - to resort to exploiting these gases without endangering human health and life, if those areas are not inhabited.

Serious problems have emerged, however, in those states which are inhabited, and where subsequent to the exploration conducted were discovered shale gases. So far two consequences were registered in the exploitation of these gases that are of particular concern: a. the injected water comes back polluted; b. land in areas in which drilling has taken place is compromised and may not be utilized in the agricultural cycle.

John R. Lyman - Energy and Environment Program Director of the Atlantic Council - Steven Hvozdoch - representative of Clean Water Action - and other analysts of the serious human consequences of shale gas exploitation in populated areas of the

United States, have pointed out that governments have an obligation to remember, when they approve exploitation of gas, that "health and life take precedence over economic efficiency and profit". **"If energy is the essence of movement, WATER is the essence of LIFE."**

### **3. "For one pit dug for the extraction of shale gas are required 18.9 million liters of clean water with chemicals"**

We owe an exceptional research done in the United States regarding the exploitation of shale gases to Mr. Carol Dan, who, in May 2013 has done an onsite investigation, giving us the necessary tools to understand the human consequences of this exploitation<sup>5</sup>.

American experts in the field point out that „the most important problem is the water used in huge quantities in hydraulic fracturing". One sole well drilled for the extraction of shale gas requires 11.3 to 18,9 million liters of clean water mixed with chemicals, which companies have to make known to the public. Moreover, it was found out that doctors who had urged companies to say what chemicals they used, had been obliged to sign statements that they would not say anything, not even to patients. The investigation that was carried out revealed that some companies "that brought the polluted water to a wastewater treatment plant, threw it into the river"<sup>6</sup>.

The injected water returns to the surface polluted. This water is collected in ponds, which have preliminarily been insulated against leakage in the vicinity wells but, not in few cases, the insulations are not solid enough and give in, and the water sources are polluted.

To see what a pond looks like, Carol Dan went to a family who had their property in the vicinity of the pond. „We all did tests" - said the members of that family. „They have found all kinds of substances in the blood, such as benzene". We had horses - they added - „but we had to sell them because they were taken ill". We moved here three years ago, but we have been striving to find a place elsewhere. „The problem is that nobody wants to buy the place we are forced to leave"<sup>7</sup>.

### **4. „When tap water starts burning the moment we strike a match, fear surrounds us all"**

A film produced by Americans concerned about the serious human consequences of the exploitation of shale gas – a film broadcast in several countries, including some TV stations in Romania - contains horrific images: "after the drilling of wells people discovered with horror that the tap water they had been using as drinking water caught fire the moment they struck a match".

Meanwhile, after the drilling of wells, large areas of land - in their neighborhood - were set aside, which explains not only the consequences regarding the pollution of drinking water, but also the fact that landowners were deprived of the opportunity to use the land to obtain the rich crops they had had before wells were drilled to obtain shale gas.

It is known that - in March 1977 – the World Conference devoted to "exploitation of water resources" based on an analysis carried out by the most reputed experts in the field, concluded that "in the next 50 years, water will be more expensive than the most valuable existing drink", because "water resources will dwindle", and in some countries will even be exhausted. Counting time, in 2027 there will have been 50 years since the "World Conference in Mar del Plata".

Given that we have been warned by the most distinguished experts in the field and the competent international fora that - in the next two decades - water resources will be exhausted or, in any case, will dwindle, why should we allow multinationals to compromise large amounts of water by hydraulic fracturing "to obtain profits of billions of euros"? Harlan Shober - representative of the Washington District in Pennsylvania - noted that hydraulic fracturing, in order to bring to the surface shale gas from a depth of thousands of meters, uses a quantity of up to 19 million liters of clean water that flows back into the underground. According to some analyses, this water is polluted and can no longer be consumed by humans and animals.

It is easy to understand the concern of the members of those Human communities who, even at present, are forced to measure the water consumption because of limited resources. In New York State, for instance, daily appeals to the population are made to economize on water consumption because existing quantities "would run out if the waste was not stopped. We know that at present, New York has imposed a moratorium on shale gas exploitation. However, several U.S. states and states from other parts of the world have banned shale gas exploitation.

### **5. Multinationals lobby to get approval for shale gas exploitation in European countries**

Noting that many European countries have perimeters of large quantities of shale gas, lately, multinationals and, especially, Chevron have been conducting an aggressive offensive to convince European leaders to accept shale gas exploitation in states that have such gas. A strong lobby in favor of shale gas drilling can also be found in Member States such as Poland, Lithuania and Romania. Multinationals even resort to influential public figures, which they send in an advisory capacity with the obvious mission to

convince European governments to adopt measures for the exploration, development and exploitation of shale gas.

Although multinationals put a lot of pressure on European officials, “the adoption of a common point of view” was not possible. It was concluded that “it's up to the member states to adapt their legislation in this area”.

France firmly opposes shale gas drilling and President François Hollande was categorically against the exploitation of shale gas, stating that “for France people's health and life are a priority”. We cannot, however, “prevent others from exploiting shale gas” - the French president pointed out at the European Council Summit in May 2013. The same position was adopted by several German states and the competent authorities in Bulgaria.

## 6. Romania's Options Regarding the Exploitation of Shale Gas

The most important player in the energy market, engaged in prospecting deposits in Romania is Chevron, to whom the state has leased three blocks from Constanta - Costinești, Vama Veche, Adamclisi, and one in Barlad. Another perimeter on which studies are done is in Suceava at Climăuți owned, as newspaper *Thought* has revealed, by Zeta Petroleum in Australia, in partnership with Energy Raffle from Singapore. Two major problems are raised related to Romania's choices in this matter: **a.** the claim by the authorities that “now we are in the period of exploration” does not withstand an analysis of the contract because the contract refers to “exploration, development, mining”; **b.** the claim that exploitation will be efficient raises at least the question: why Romania accepted a royalty of 3.5 percent and Poland proposed a tax of 80 percent for extracting shale gas<sup>8</sup>.

By far the most important issue is the impact on people's lives and health. And, in order to understand this impact, we recall the declaration of Nicolas Hultot, special emissary of the President of France for the protection of Earth: „I can only tell you that, in the case of shale gas, the denouement will not be a happy one. It is a suicidal traject“.

## 7. Extending Shale Gas Exploitation – a Priority of Chevron Company

It is known that - in recent years - Chevron company, which is the third largest “among the new colonial empires” held a media offensive and

approached several governments around the world to extend the exploration, development and exploitation of shale gas<sup>9</sup>.

Based on the Company's prospecting specialists in Europe, the countries that have the most important reserves are: France<sup>10</sup>, Poland<sup>11</sup> and Romania<sup>12</sup>.

Authorities in some countries<sup>13</sup> tend to downplay the serious consequences of shale gas to the health and lives of people<sup>14</sup>.

United Nations Commission on International Trade Law<sup>15</sup> has drafted legislation calling on the authorities that conclude commercial contracts which involve the population economically, socially or health-wise, to make public the terms and conditions set forth so that the effects of these contracts be known<sup>16</sup>. The Commission has released a consensus discussion on the need for “transparency binding” contracts where the rights of people are involved<sup>17</sup>. Representatives of Member States considered that such clauses as those related to the confidentiality agreements are not justified in the cases where health and life are in question.

## 8. Could the Exploitation of Shale Gas Lead to Romania's energy independence?

It is understandable that each country would like to obtain energy independence, given the energy costs rising lately, on the one hand, and the increasing demands for energy resources in various sectors.

Based on the specialists' analysis, attaining energy independence is at least questionable, given that imports of gas from Russia currently cost 380 dollars for 1,000 cubic meters, and the imports from the United States will cost \$ 550 for 1,000 cubic meters of gas<sup>18</sup>.

Obviously, if the Bucharest authorities stipulated in contracts with Chevron Company the requirement that the gases produced are made available to Romania, this could shape the country's energy independence. We have, at least until now, no information that Chevron has assumed such a commitment.

## 9. Conclusion

The exploitation of shale gas certainly represents a grave danger for the health and lives of people, and the attainment of energy independence is quite questionable.<sup>19</sup>

<sup>1</sup> Richard Baldwin has been remarked by his studies on European relations and especially on the “evolution of the integration process”. Amitai Etzioni was President Jimmy Carter's counselor. In his studies he promoted communitarianism.

<sup>2</sup> Amitai Etzioni – in his studies – ponders on the „complex character of globalization”

<sup>3</sup> Ricardo Petrella, *Patrons of Earth*, in „Le Monde Diplomatique”. The Chapter „World Megasytems” is devoted to the major evolutions in the globalization of economies and to the influence of globalization on diplomatic relations.

<sup>4</sup> Alain Gresh, in his study „The Recreation of Internationalism” makes a thorough analysis of the „context in which globalization spreads”, noticing the characteristics of this process in the present system of international relations. Charles Gide, honorary professor at the Faculty of Law in Paris, professor at Collège de France, drew the attention to the moral degradation of relations within world economy and trade, where honesty has disappeared; the forging of products has amplified and the drive for profit knows no limits. It is a world of wolves where, in order to survive, one „has to howl like wolves”, as he said in his *Principles of Political Economy*, p. 160.

<sup>5</sup> Carol Dan, *The Shale Gas War: between the Billion Dollar Profits and the People with Benzene in their Blood*, in „Business Magazin” of 31 May 2013.

<sup>6</sup> *Ibidem*.

<sup>7</sup> *Ibidem*.

<sup>8</sup> *Mediafax*, 21 mai 2013.

<sup>9</sup> Among the new countries under Chevron scrutiny are several European ones

<sup>10</sup> French authorities have declared against shale gas exploitation on their national territory, considering the major dangers for human health and life

<sup>11</sup> The Polish government has established severe rules as to the exploitation of these resources, and fixing taxes of 80% and limiting the areas where exploitation can be done

<sup>12</sup> the Government in Bucharest has not made public for the people the terms and conditions under which contracts were signed with Chevron

<sup>13</sup> including Romania

<sup>14</sup> hoping to avoid the protests of the population

<sup>15</sup> in which I had the opportunity to be a member

<sup>16</sup> *United Nations Commission on International Trade*, Third Session, 1998, New York.

<sup>17</sup> the tendency to secretize these contracts was severely criticized

<sup>18</sup> Rainer Seele, President of the Board of German Wintershall Company, has made a pertinent analysis regarding the economic and commercial implications of shale gas exploitation

<sup>19</sup> Elena Stan, „Romania’s Gas Reserve Shall Be Exhausted in 12 Years. The alternative to shale gases: importing Russian gas for 380 dollars per 1000 cubic meters or importing from the United States for 550 dollars per 1000 cubic meters”, in *Jurnalul Național* from April 8, 2014.