Risks Caused by the Shale Gas Exploitation and Climate Change Adaptation
WHAT IS SHALE GAS?
- It is the natural gas released by the source rock and remained trapped in the rock.
- For this we must bring its migration artificially by means of hydraulic fracturing.
It is the fact of injecting water under high pressure in the deep formations to release the gas source rock.
WHAT RISKS CAUSED BY HYDRAULIC FRACTURING?

- To Water aquifers
- To Atmosphere
- To Environnement
RISK CAUSED TO WATER AQUIFERS

* Seismicity induced by fracturing
* Pollution induced by chemical additives to fluid fracturing
* Use of large quantities of water
Emissions of green house gas: Methane, ethane, propane, butane
Significant number of very close vertical and horizontal drilling with the rate of 1 well/2 km

- Many slopes and cuttings piled
- Water recovery basins and drilling mud
EXPERIENCE IN THE USA

- About 2 million vertical wells since 2002 and around 12 Million horizontal wells were performed
  - Wide pollution of aquifers
  - Self sufficiency in natural gas
  - Soon Exporter of Gas
That will be considered are:

1. Reducing amounts of water used
2. Sealing the wells to minimize emissions of gases
3. Use of treated waste water in hydraulic fracturing
4. Development projects for local populations
What is Government Responsibility
Responsibility of Government is great

**Government** must prepare legislation to monitor the company operates shale gas on his land

**Government** must draw up an action plan preparing the exploitation of gas shale

**Government** must make an estimate of its reserves of shale gas