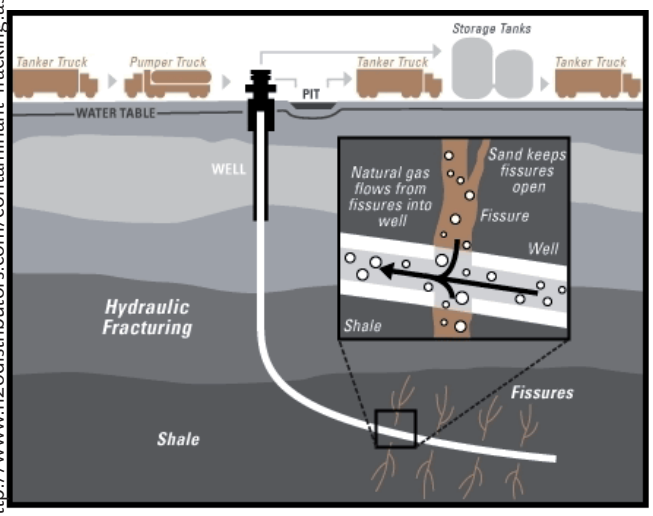
Why the South African government should say NO to fracking

What is hydraulic fracturing?



http://www.h2odistributors.com/contaminant-fracking.asp

Hydraulic fracturing or fracking is a drilling technique used to mine natural gas from shale. Shale is a fine-grained sedimentary rock composed of mud, clay minerals and fragments of other minerals, such as quartz and calcite. Shale rock can be rich sources of petroleum and natural gas.

A well is drilled vertically deep into the earth for between 3-6km to the desired depth, it then changes direction and continues horizontally into the shale believed to contain the trapped natural gas. A mix of water, sand, and various chemicals is pumped into the well at high pressure in order to create fissures in the shale through which the gas can escape.

Natural gas escapes through the fissures and is drawn back up the well to the surface, where it is processed, refined, and shipped to market. Wastewater (also called flowback or produced water) returns to the surface after the fracking process is completed.

What are the plans for fracking in South Africa?

The Petroleum Agency South Africa (PetroSA) has granted permits to four companies to explore for gas in the Karoo (Eastern Cape, Western Cape and Northern Cape) as well as the Free State and KwaZulu-Natal.

(In November 2011, Sasol and its associates announced they would no longer pursue their right to explore, leaving their territory open to another applicant.)

Key	Company	Nationality	Area of exploration	Surface area granted (km2)
	Royal Dutch Shell	United Kingdom/ Netherlands	Karoo (W & E Cape)	90 000
	Sunset Energy (Bundu)	Australia	Karoo (E Cape)	3 100
	Falcon	United States	Karoo (E Cape)	30 350
	Sasol – Statoil – Chesapeake	South Africa – Norway – United States	Free State , E Cape & KZN	105 000
	Sungu Sungu Group	South Africa	Information could not be found	

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Impacts of fracking

Ethical considerations: Areas that are earmarked for fracking are predominantly agricultural or ecologically sensitive, and the clearing of such land for gas is unethical. It is important to preserve the actual or potential agricultural land for food and for ecological purposes.

Release of toxic chemicals: About 99.5% of the fluid injected into fracture rock is water and sand and chemicals comprise between half and 2% of the total fracking fluids. The composition of fracking fluids vary considerably according to the specific conditions underground, these chemicals range from the benign to BTEX (benzene, toluene, ethyl-benzene, and xylene), arsenic and formaldehyde. These fluids can leach into the ground contaminating groundwater. Toxic gasses, VOC's (Volatile Organic Compounds) and vapours can escape, are vented or flared at shale gas extraction sites, causing air pollution. A myriad of health concerns and risks, ranging from mild infections to cancer, are associated with natural gas production. Different stages of the gas extraction process pose different health risks.

Waste water disposal: Some measures of waste water disposal include evaporation pits that evaporate the toxic chemicals and water into the atmosphere. Another technique entails land farming – ploughing the drilling waste, mud, cuttings and flow-back water into the soil, increasing the risks of ground water pollution. Other disposal techniques involve spraying the water onto roads for dust control or sending the waste water to water treatment facilities that are often incapacitated to treat the water.

Water: The areas under exploration include the Karoo which is a semi-arid region. It was named by the early Khoisan people to mean "land of thirst". Most of the area depends on groundwater as the only source of water for domestic, agricultural and livestock watering purposes so it would be very difficult to source the large quantities of water that fracking requires.

Climate change: Shale gas is largely made up of methane and according to US researchers[1], the footprint of shale gas is greater than that for conventional gas or oil when viewed on any time horizon, but particularly so over 20 years. It is at least 20% greater than coal and perhaps more than twice as great on the 20-year horizon, and is comparable when compared over 100 years.

Boom and bust: Communities will be faced with increased migration of mostly male populations who are either employed or are expecting employment from drilling companies. This places a tremendous strain on the infrastructure and results in a myriad of social problems for small communities. It is also a common occurrence that once a particular process has been completed, the now redundant labour force will remain in the area attempting to make a living.

Shale exploration is not sufficiently regulated: The lack of technical and human capacity to regulate within the South African government is evident currently in various sectors such as in the air quality priority areas. A new skills-set will be required within government in order to regulate, manage, monitor and enforce mitigation of impacts of the fracking industry. In the USA, industry does not have to provide full disclosure of chemicals used in the fracking process because of trade secret exemptions[2]. The various government departments in South Africa with their varied mandates will struggle to ensure a well regulated industry.

1 Howarth et al, 2011; Black, 2012a
2 EMG Water and Climate Change Research Series Report 6 Liane Greeff September 2012

Conclusion

The trade-off between these impacts and economic development is something that the South African government needs to take seriously and, considering the already crumbling state of environmental governance in South Africa, the government cannot guarantee that they will be able to regulate this process.

Fracking proponents' claims of economic development and jobs demonstrates an unwillingness to invest in an energy model that is beneficial to all rather than a few greedy multi-nationals and ruling party coffers.

Real alternatives in behavior and technologies lie in the re-examining of collective values and collective demand for such change where we recognise that environmental protection equals to protection of life.

What we must do

Seek answers to critical questions. Where will the water that is needed for this process come from?; what legal framework exists that will ensure protection of human health and the environment?; what will happen to the existing jobs and livelihoods attained from agriculture and tourism in areas identified for fracking?; what infrastructure exists to transport the gas to where it needs to go?; where will the toxic waste be taken?; how many permanent local jobs will be created for people?; what is the economic, human and environmental benefit to fracking as opposed to sourcing renewable energy from the areas identified for fracking?

Participate in licensing processes and delay/avert these processes.

Take part in actions that are web-based and on the streets in numbers.

Link with other civil society groups to increase support for this struggle. These groups could be found in the labour sector, social movements, international NGOs and the religious sector.

Avoid Nimby (Not in my back yard) syndrome – the earth is our back-yard.

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